

FLIGHT

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AND AIRSHIPS

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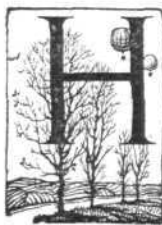
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EDITORIAL COMMENT



AS the coming of air power threatened the future of civilization? That is a question which concerns us all. We cannot believe that the well-meant attempts at disarmament and outlawry of war which have occupied the League of Nations and various Governments during the last 11 years have banished the possibility of another war. Most certainly what is called savage warfare remains with us, and always will so remain until all the races of mankind have absorbed enough civilisation to be able to make aircraft and tanks. At the moment these words are being written it is possible that the squadrons of the Royal Air Force in India are dropping bombs on the Afridi *lashkar*. That warfare is not entirely "savage." There is a true story told of a Mussalman *Subadar* of the Indian Army who, when he heard of the shelling of Rheims cathedral, exclaimed, "When we attack the Pathan tribesmen, it is a Government order that we must spare their mosques, because a mosque is the house of God. A cathedral is also a house of God, and should not be shelled." It is only when we turn to warfare between civilised nations that we find anyone desirous of abandoning all restraint, and advocating that no action is to be barred which might lead to victory. If this school of thought were to become predominant then surely the next war—and another war will certainly come in due course—would obliterate civilization so far as the belligerents were concerned.

The arguments of this extreme school are in the first place to be traced to the teachings of the worst of the Prussian militarists in the great war. They professed to believe that the cause of "Kultur" justified almost everything. Thus was the use of gas introduced into war. "Frightfulness" was deliberately practised in the hope that the civil population, in an extremity of terror and agony, would demand that its Government should make peace at any price. Those hopes were grievously disappointed,

DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list—

1930
Aug. 9-24 Gliding Competitions, Rhön, Germany.
Aug. 15-31 Circuit of Italy.
Aug. 17 .. Shanklin Meeting.
Aug. 30 .. Liverpool-Manchester Inter-City Air Race.
Aug. 30 .. Liverpool Air Display.
Aug. 30 .. Air Fete, Cramlington, Newcastle-on-Tyne.
Aug. 30 .. Bedford Club Meeting.
Sept. 1-6 .. 5th International Air Congress at The Hague.
Sept. 6 .. Opening of Ratcliffe Aerodrome, Leicester.
Sept. 6 .. Bristol and Wessex Ae.C. Air Display and Garden Party.
Sept. 13 .. N.F.S. Air Pageant, Tollerton, Nottingham.
Sept. 14 .. N.F.S. Air Pageant, Leeds.
Sept. 15-20 Flying Week at Llandudno.
Sept. 27 .. N.F.S. Air Meeting, Hanworth.
Nov. 28- Dec. 14 Paris Aero Show.
1932
May 31 .. Closing date for Cellon Cross-Channel Glide £1,000 Prize.

and "Frightfulness" was a dead failure. It always, in all wars, has been a dead failure. Yet, sad to relate, the doctrine was imbibed by a section even of Britons. In the second place, this school of thought has based its arguments on the coming of air power. This is a new thing, say the exponents of this school, and therefore no ancient arguments can be made to apply to it. It is no use, they continue, to quote the chivalry of the Black Prince (forgetful of the fact that the Black Prince and his father were both guilty of frightfulness, yet did not subdue France). Modern warfare must be materialistic. Aircraft, by means of bombs, and especially gas bombs, can so strike at the nerve centres of the opposing population that it will be difficult for the voters to refrain from demanding peace, and the Government will find it impossible to resist the demand, even though the navy and army are still undefeated. Thus will a short cut to victory be achieved, possibly with less bloodshed than in a long war between armed forces.

This school which calls for no restraint is not at all logical. If frightfulness is to know no restraint, then all prisoners should be tortured to death. Yet we doubt if even the leaders of this school would advocate that. They would certainly shrink from ordering the "screw to twist and the rack to turn," or "the pendulum to swing," though they have no qualms about pressing a bomb lever and inflicting an equal amount of torture which their eyes do not see. The argument that shot and shell also cause pain is typical of the school and hardly requires an answer. It is one thing to shell fighting men, and quite another thing to bomb women and children.

Mr. G. M. Spaight, in a notable book which is reviewed on another page, has dealt convincingly with these arguments. He has shown that the novelty of the weapon (*i.e.*, aircraft) makes no difference to the principles of war, that no great commander or statesman has ever believed in a "short cut" to victory, that fear of reprisals will do what honour may fail to do and will oblige a general respect for the rules of war, and that the only safe doctrine is that the armed forces of the enemy must be overthrown. The great rôle which he foresees for aircraft in war is the destruction of munitions, which will result, according to the degree of its success, in making possible the defeat of the enemy's forces.

It is gratifying to realise that this is also the doctrine held by the authorities of the Royal Air Force. Thoughtless young pilot officers in bomber squadrons may talk lightheartedly about the havoc which they are prepared to wreak in the residential suburbs of enemy cities, but they are not to be taken as representative of the Air Staff. As we go to press, extensive air exercises, or manoeuvres, are being held over central England. The purpose of manoeuvres is to test the theories of a staff as well as the organisation and training of units. The scheme has to reflect the theories held about the functions of the force which is being exercised. In

this case it is made quite clear that the objects of an air force are held to be the bombing of factories, railways, air stations, and other objectives which go to make up the fighting power of the enemy. In this sham war, the Blue Power in the south is aggressive and has a preponderance of bomber squadrons. Its country is poor and has no object worth attacking except the air stations. The Red Power in the north has mineral wealth and a system of railways round it. For defence purposes it has a preponderating number of fighter squadrons; though its small force of bombers may be used to attack the Blue aerodromes.

Of all the very interesting points with which these exercises are concerned, the most interesting is the way in which success will be estimated. The object of the Blue bombers is to stop the work of the Red factories, not to kill the workers. Marks are given for the number of man-hours lost to the Red factories as the result of each bomb raid. The bombers must study their target and the proper way of dealing with it. If it is a blast furnace, they must use the type of bomb best calculated to demolish a blast-furnace. A direct hit with another type of bomb will not score full marks, for it would not put the furnace out of action for so long and would not cause the loss of so many man-hours. Of course, no real bombs are dropped, except practice bombs on regular bombing targets, but the bombers must declare what type of bomb they are supposed to use. An analogous point is that statistics of imaginary casualties are not issued. The umpires consider the tactics of the units and give an opinion as to whether such tactics would have been likely to succeed. This will avoid the confusion which inevitably follows the publication of statistics. Even real figures can be interpreted in many ways, and various lessons can be drawn from them. But when the figures are imaginary, the conclusions must be very wild indeed.

The decision of victory or defeat in each air combat being based on the soundness of the tactics employed, the correctness of the formation, etc., should have a very good effect on the training of the units. In war, unorthodox gallantry may pay. On manoeuvres it must not do so—for what is so futile as to display disregard of imaginary bullets? But something altogether bigger is entailed by making the loss of man-hours the object of the bomb raids. This should go far to teach members of Air Forces that they are not mere baby-killers, but that their real function is to destroy the *matériel* of the enemy, and so paralyse his armed forces. It should also have a good effect on the public, if the papers and their air correspondents show themselves able to appreciate the point. The theory that ruthless slaughter of civilians in war is not only excusable, but desirable, is a demoralising theory. It should be stamped out, and the authorities of the Royal Air Force in these manoeuvres are to be congratulated for having shown that they, at least, are not infected by it.

The Supermarine "Southampton" Mark X

FOLLOWING upon their great success with the Southampton all-metal flying boats, the Supermarine Works of Vickers (Aviation), Ltd., have just completed a new version known as the Mark X. This machine (*see next page*), which is fitted with three Armstrong-Siddeley "Jaguar" engines, has an overall length of 60 ft., a wing span of 79 ft., an overall height of 22 ft. 6 in., and a total wing area of 1,235 sq. ft.

The hull is of all-metal construction, with Duralumin

frames and planking on the upper part, and steel planking of the underwater body. The internal accommodation is arranged as follows: In the bows there is a cockpit for use when mooring, etc., and in which all marine gear is stowed. Aft of this is the pilots' cabin, with side-by-side seating accommodation. The seats are placed high so as to give a good view forward and downward. Behind the pilots' cabin are the compartments for the W/T operator and for the navigator, with large tables and ample room for stowage of gear.



A NEW FLYING BOAT FOR THE R.A.F.: The Supermarine-Jaguar "Southampton" Mark X has been built to the order of the Air Ministry at the Supermarine Works of Vickers (Aviation) Ltd. Note that the machine is about to take off on two engines only. (See page 910.)



Herr Morzik, the winner of the competition.

INTERNATIONAL TOURING COMPETITION

Beginning of Technical Tests

By EDWIN P. A. HEINZE



Miss Spooner, 4th in the competition and top English competitor.

ON August 5, the number of competitors again changed as some of the stragglers, including Böhning (Germany), on his BFW (BMW engine) and the two Swiss pilots, J. R. Pierroz (Breda-Walter) and Charles Kolp (Klemm-Argus), were admitted to the technical tests. This made 35 machines in the running, but the last-named have very little or rather no chance at all of advancing into the head group.

The comfort and equipment rating, carried through by the international committee on Monday, August 4, brought about a great change in the leading group of competitors. The German Herr Poss has come to the top of the list with his Klemm (Argus) and Capt. Broad has dropped back to fourth place. A sensation was Carberry's advance to second place from his former 10th position. This is solely due to the wonderful equipment of his American Mono Special plane with its two seats side by side. Carberry gained the maximum number of points, namely, 74, of all competitors in this rating. The next highest rating was 65 points, with which Dr. Pasewaldt, who is flying a German Arado (Argus), was credited. This plane, too, has a cabin and seats arranged side by side, but over the two doors it is open, though hinged flaps are fitted to prevent wind and rain entering the cabin. Thus, the jury has outspokenly favoured cabin planes

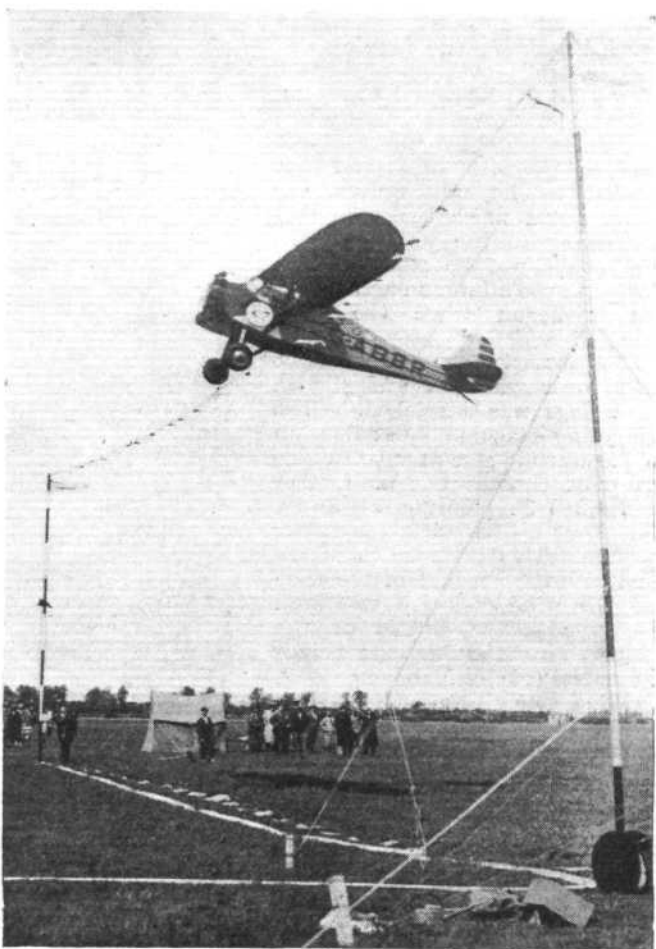
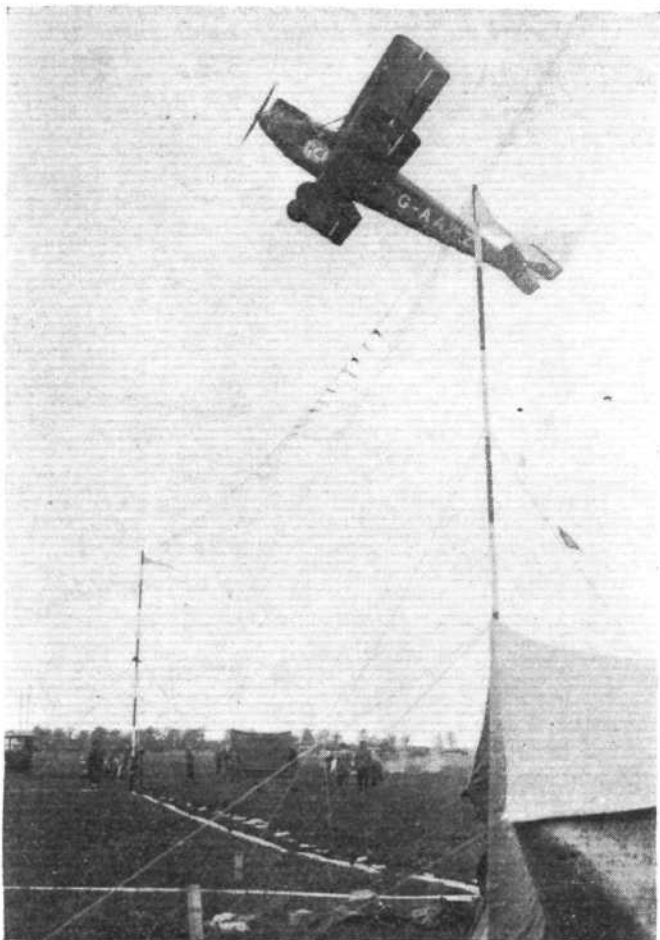
with side-by-side seats. Opinion in aviation circles as to the merit of side-by-side seats is split, for some consider the tandem arrangement of the seats to be preferred, as in the older type machines, for giving better vision to both sides. Yet, of course, it cannot be denied that for mere comfort the side-by-side arrangement deserves the preference, and that, after all, was what the jury were out to give awards for.

It is not yet possible to give details of the number of points allotted for each item. But the following are the items that were considered and the points mentioned are the maximum ones that were allowed:—

	Points.
For normal comfort	6
For seats side-by-side	6
Or in lieu of this for telephone carried during the whole contest, and included in the contest weight	3
For cabin enclosing the whole crew	6
For luggage of sufficient size to accommodate a case measuring 50 by 30 by 12 centimetres (19.7 by 11.8 by 4.7 in.) for each member of the crew or a space of corresponding volume occupied during the whole of the contest	9
For special comfort	6



Herr Johann Risztics (Junkers-Genet) watches his fuel being measured out after the consumption test.



Mr. Andrews (Spartan-Arrow-Gipsy II) makes sure of clearing the take-off obstacle.

Mr. Carberry (Mono-Special-Warner) in the take-off test.

For axleless landing gear or such having a divided axle	Points.
For landing gear with special features, such as wheel brakes	6
For fire extinguishing or fire safety devices beyond those prescribed in the contest regulations..	9
For dual controls	6
These need not be fitted in position both together, but both must be carried during the whole contest same as the fire safety devices	6
For instruments carried throughout the whole flight beyond those described in the contest regulations	15
They, however, must be of approved design.	

For water safety devices, such as swimming vests, life belts, etc., carried through the whole contest	Points.
For parachutes, provision of and ready ability to make use of them carried throughout the trial	6
While all other equipment that has to be carried throughout the trial must be included in the empty weight of the machines, the last two items are not included.	8

The maximum number of points any competitor could have received for these items thus is 89, which no one was able to obtain.



Miss Spooner superintending the manhandling of her machine during the consumption trials.

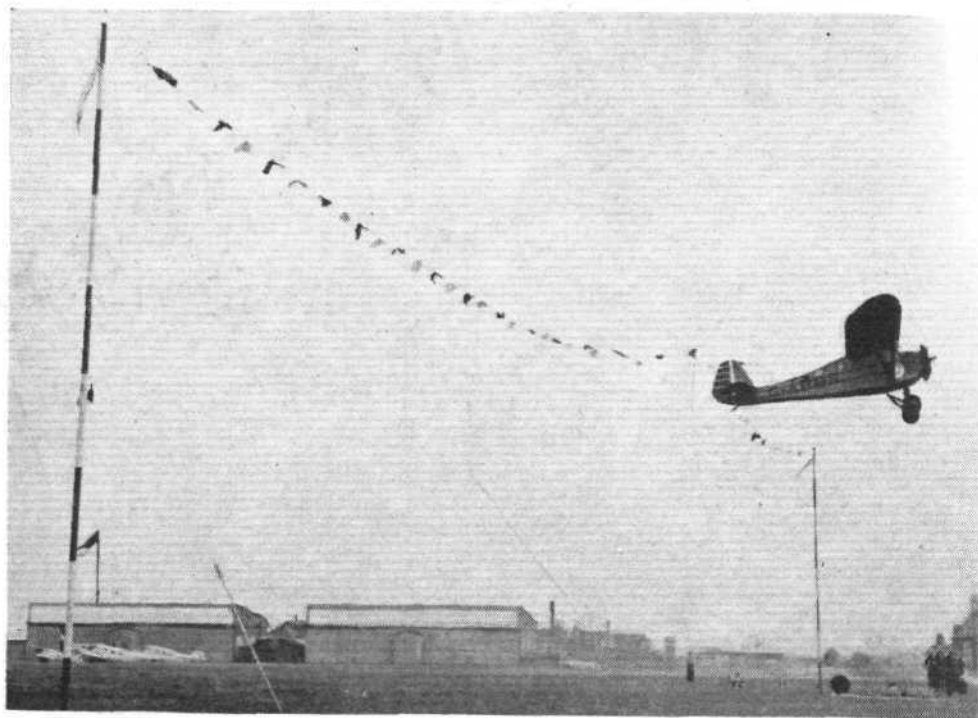
On August 5, the landing and starting trials over an obstacle 8 metres (26 ft.) high and 40 metres (131 ft.) long, were to take place. The order in which the machines were to go into this trial was decided by lot, but only a few planes could finish the trial that day owing to the weather. The trial could not be started till 5 o'clock in the afternoon and hardly had it begun when the wind changed.

The obstacle consists of two masts over which a string with small flags was stretched. The competing machine must line up on the starting side at any distance the pilot chooses but no further than 1,310 ft. (400 metres) away. The closer up he starts the better for him. This distance is multiplied with the product of the time and the wind velocity measured the moment the wheels of the machine cross the line at a height of 4 metres (13.1 ft.) above ground, the wind meter being attached to one of the masts. The time is checked from the moment the machine starts rolling from its starting position till its wheels cross the line of flags.

After crossing the obstacle the machine has to fly half round the flying field and then attempt a landing over the obstacle so that the machine comes to a standstill the shortest possible distance from the masts. Wheel brakes, if fitted, may be utilised. The rating for the landing performance is established in a similar manner to that of the start. The distance is measured from the obstacle to that part of the machine touching the ground, which is farthest away from the obstacle. The time is registered from the moment the plane's wheels cross the line till the machine comes to a stop, and it is multiplied with the wind velocity. The machine having the shortest starting and the shortest landing stretch will receive 30 points for each performance, and the next best machines will receive a proportionate number of points. Machines not coming to a stop, when landing, within 400 m. (1,310 ft.) of the obstacle will drop out of this rating.

The first pilot to venture the attempt was S. A. Thorn on his Avro-Avian. Each pilot is allowed two unrated or practice attempts, and two rated trials. Of the latter the best one is registered to his credit. After Thorn, the Frenchman, Finat, followed on his Caudron, and he, in turn, was followed by Arrachart, his countryman, on a similar machine. The French machines did not seem to have such good climbing qualities as the British machine. Arrachart, in fact, once went beneath instead of above the line of flags; Finat, in one landing, buckled up his tail skid. Nothing, however, can be said with regard to the results, as these, as was indicated, can only be calculated after all competitors have gone through these tests. But when they are complete the whole contest will at last be finished and we shall definitely know who the victor is. At present this question is still entirely open, because, with 60 points yet to be awarded there are numerous possibilities for, what we may term an outsider, winning the coveted trophy.

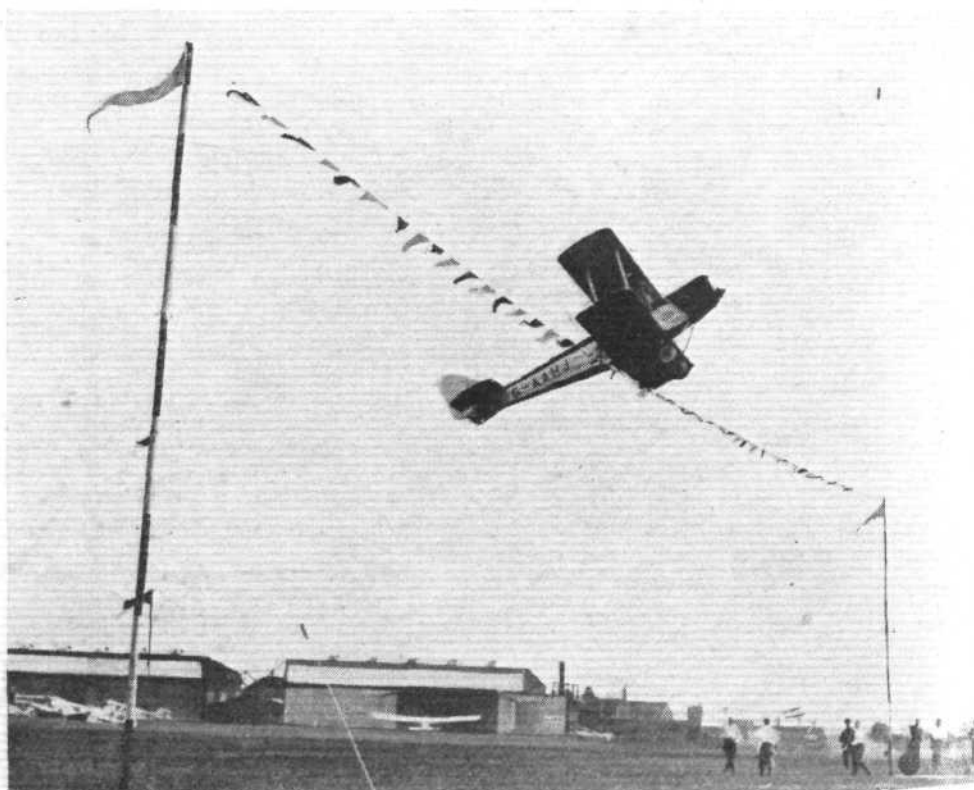
On August 6 the position of the competitors had again changed to a considerable extent owing to the



Mr. Carberry (Mono Special-Warner) underestimates the run required during a practice take-off.

results of a dismounting contest held in between the other tests during the last two days. The purpose of this test was to ascertain the time in which the planes could be completely dismantled for dispatch by train, and the German monoplanes, with their cantilever-type wings, were naturally in a more advantageous position than the British biplanes with their bracing wires, etc. Carberry dropped back to fourth and Broad to fifth positions.

In to-day's starting and landing trials Carberry, on his American Mono-Special achieved the best starting time but this was, unfortunately for him, rather badly set off by a none-too-good landing distance. Also Miss Spooner put up a very fine performance both starting and landing. It appears this will be a very close contest down to the last minute. The German pilot Poss, at present the leader of



Mr. Thorn (Avian Hermes) well over in the take-off test.

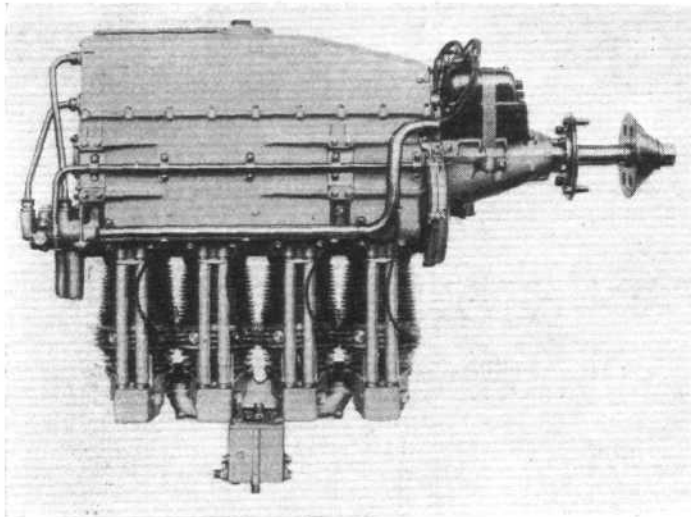
the field, as also last year's winner, Morzik, made fine starts and landings. A few pilots broke their landing gears or tail skids. In as far as these accidents, none of which happily caused any personal injury, occurred during one of the two practice flights allowed before the rated performances, the pilots were given permission to repair the damage, the time however for doing so being limited to five hours.

The first results have just come out (August 7). They are not yet final as the International Sport Commission has to confirm them, but there appears no doubt they will be accepted as they are. The landing and starting test over an obstacle has been the deciding factor as I indicated in a former report it would be. The first three places have gone to German pilots and machines, but a very good fourth was obtained by Miss Spooner. The results of the first 10 are given below. At a later date we will publish a complete table with the points obtained in the various ratings. The material is not yet available. That, too, will be the appropriate time to review the whole contest, and touch on the points of the regulations that in a future event might perhaps be worth improving or modifying.

The starting and landing test was essentially a test of the pilots rather than of the



M. Finat (Caudron-Renault) in the take-off test.



The camshaft side of the Argus motor, which has done so well in the competition.

machines, although the qualities of the latter were, of course, a very high factor in the success.

Morzik, who was also last year's winner, again flew a

BFW machine, which this time was powered with the new German Argus motor. This new motor, built by the oldest German air motor factory, has registered an outstanding success in this contest. It has four inverted cylinders of 4.73 in. bore and 5.51 in. piston stroke. The motor is not very highly tuned in keeping with the tendencies now followed in air engine construction. It develops 80 h.p. at 1,400 r.p.m., and weighs 248 lb. The piston displacement is 386 cub. in., and the compression ratio 5.3 to 1. The BFW plane is similar to the one that won the contest last year. It is a low-wing monoplane, at first sight somewhat similar to the Klemm, and people, not knowing the two makes well, sometimes confuse it. The span is 39.37 ft. and the maximum speed 109 m.p.h. It is built entirely of wood covered with fabric.

The results, though unconfirmed, stand as follow:—

1. Morzik, BFW-Argus	427 points.
2. Poss, Klemm-Argus	423 "
3. Notz, Klemm-Argus	419 "
4. Miss Spooner, Moth-Gipsy	416 "
5. Polte (German), BFW-Siemens	409 "
6. Carberry, Mono-Special	405 "
7. von Massenbach (German), BFW-Siemens	399 "
8. Capt. Broad, Moth-Gipsy	395 "
9. Krüger (German), BFW-Argus	394 "
10. Dinort (German), BFW-Argus	385 "

A Bluebird (Gipsy I) which Capt. Roxborough Smith is flying for the Rhodesian Aviation Company. Flights over the Victoria Falls are very popular in this machine, especially for those on their first flight, as the side-by-side seating makes conversation easy.





Large crowds lined the streets and cheered Miss Amy Johnson when she drove on August 6 from her hotel to the Savoy, where a luncheon was given in her honour. Our picture shows the scenes at Trafalgar Square.

MISS AMY JOHNSON HONoured

QUITE apart from—in fact, we think we may say, in spite of—the somewhat blatant lay Press eulogism (with exceptions), the scenes witnessed in London and elsewhere during the last few days indicated that Miss Amy Johnson, C.B.E., has, by her historic flight to Australia, completely won the admiration of the British Public.

Her drive in state, in an open car, accompanied by three Aviation pioneers—Sir Arthur Whitten Brown, Louis Paulhan and Lt. Conneau (André Beaumont)—from her hotel to the Savoy Hotel on August 6, gave rise to remarkable demonstrations on the part of thousands of people who cheered her with enthusiasm all along the route.

This, however, was a minor feature of the honour paid to "Johnny" in comparison to the luncheon given at the Savoy Hotel as a "tribute from representatives of British youth and achievement in all activities of life to her courage and endurance during her historic flight from England to Australia."

This luncheon, which was organised by the proprietors of the *Daily Mail* and presided over by Mr. Esmond Harmsworth, was undoubtedly unique, not only in the annals of aeronautics, but as regards banquets generally. For, on this occasion, there were seated together under one roof, not only many notable personages of the day, but a wonderful gathering of distinguished young men and women who have achieved fame in the various walks of life—representing art, literature, sport, science, politics, etc.

It is not possible to mention here the names of all those present (we give a list of many of those who accepted invitations at the end of this report), but we think it may be of special interest to our readers to mention that we observed seated together at one table Sir Arthur Whitten Brown, Claude Graham-White, M. Bleriot and M. Paulhan—"youngsters" of bygone days!

Mr. Harmsworth, who proposed Miss Johnson's health, read a number of letters and telegrams from people unable to attend; among these were the Prime Minister (Mr. Ramsay MacDonald), who wrote: "Thank you very much for your invitation to a lunch of the younger generation to meet Miss Amy Johnson on her return to England. The welcome I

should give her in its heartiness would, I think, fully justify you in including me among the younger folks, but most unfortunately I am doing everything I can to leave by air on the 6th for Lossiemouth. I shall be very glad if you will express my regrets and give your guest heartiest congratulations from me."

Dame Margaret Lloyd George telegraphed: "Deeply regret that I am not there to join in celebrating the glorious triumph for my sex won by Miss Amy Johnson."

Lt.-Col. W. A. Bishop, V.C., and Miss Winifred Brown (who was unable, at the last minute, to be present owing to illness), also sent messages of regret.

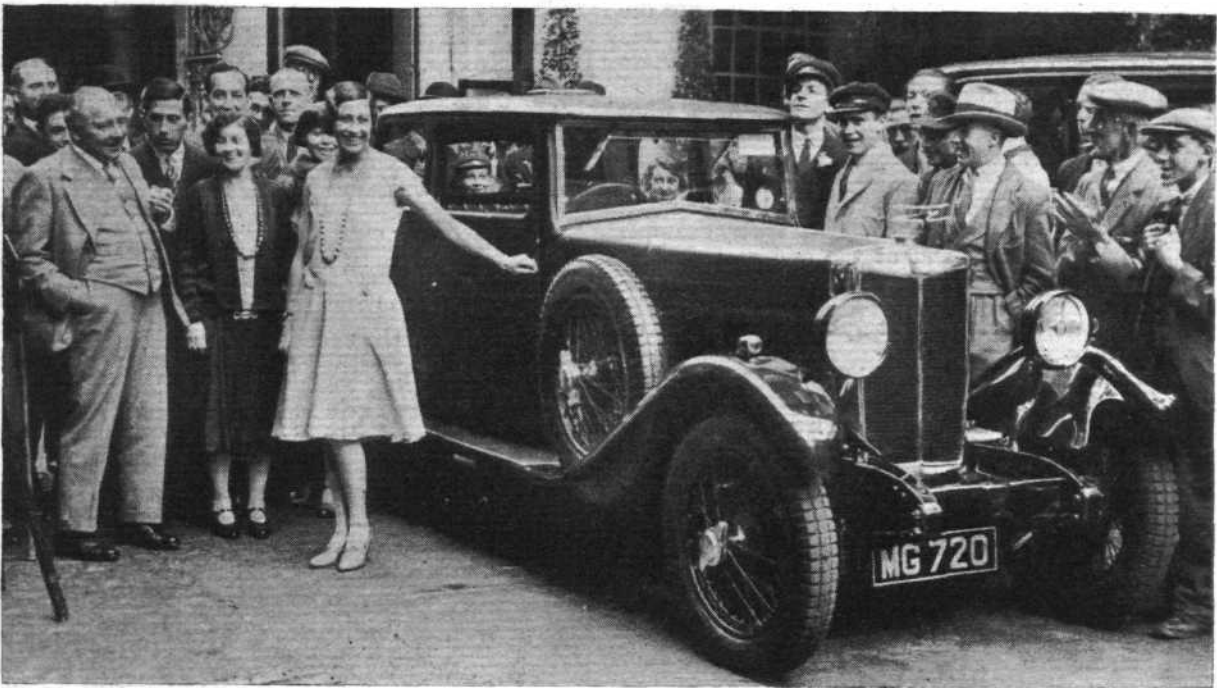
Mr. Harmsworth, in proposing "Our Guest," referred to previous *Daily Mail* prize-winners in aeronautics—Sir Arthur Whitten Brown (and the late Sir John Alcock), the first to cross the Atlantic, and M. Bleriot, the first to cross the Channel. He said to those who doubted the good done for the world by such records that if it had not been for these pioneers of aviation, who blazed the trail, we should never have got to the present state of progress.

With the help of others who were interested in the progress of aviation, Miss Johnson proved that now, as in all times throughout the ages, where there was a will there was a way. They welcomed her for her great achievement; for her courage; for her great feat of endurance; for her daring; and for the great example she has set the youth of this country.

If we were to maintain our great position in the world we must produce young men and young women like Miss Johnson, with the same courage and enterprise in whatever walk of life we were born.

Mr. Harmsworth then presented Miss Johnson with the *Daily Mail* cheque for £10,000, and also with a gold cup bearing the inscription: "To Miss Amy Johnson, C.B.E., a Tribute from the Youth of Great Britain for her British Courage and Endurance during her Historic Flight in 'Jason,' England to Australia, May 5 to 24, 1930."

Air Vice-Marshal Sir Sefton Brancker, in presenting Miss Johnson with a certificate of honorary membership of the Guild of Air Pilots and Air Navigators of the British



ONE OF AMY'S MANY GIFTS: Miss Amy Johnson, with her father and mother, standing beside the M.G. sports car presented to her by Sir William Morris.

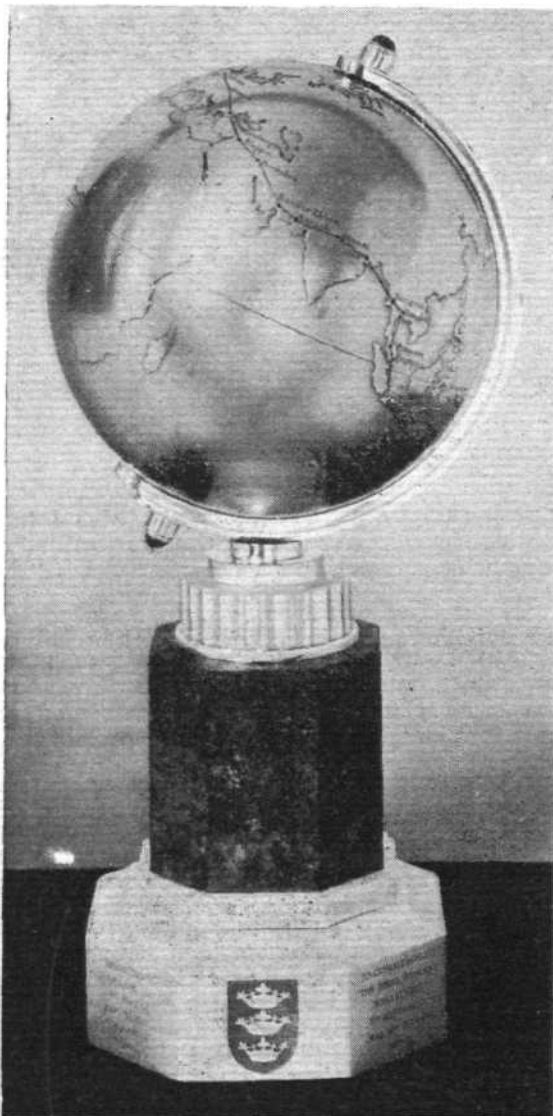
Empire, said Miss Johnson was the first woman to be an honorary member of the guild, and her name was beside those of Sir Arthur Whitten Brown and other pioneers. Her success had been due to enthusiasm and determination, and, above all, thoroughness, and she also had the qualities of personality and charm. She had done the right thing in the right way, and the admiration of the air pilots of the British Empire went out to her for her feat and for the honour which she had done to their profession.

Sir Philip Sassoon, M.P., chairman of the Royal Aero Club, congratulated Miss Johnson on behalf of the four great aeronautical organisations—the Royal Aero Club, the Air League, the Aeronautical Society, and the Society of Aircraft Constructors. Judged purely as an example, her flight had, he said, more than earned the gratitude and respect of those who had the welfare of British flying at heart. After referring to another famous person of the same name—Dr. Johnson—who was not, apparently, completely air-minded, Sir Philip said that no doubt the time would come when individual exploits would no longer be necessary to popularise and advertise flying, but that time had not yet come, and meanwhile the cause of flying owed much to this exceptional pioneering feat.

After several minutes of cheering, Miss Amy Johnson replied. She said:—

"It is a most wonderful honour to me to meet such a distinguished company of people. Three months ago I would have been glad to stand in a queue to see any one of you; now I find I have the opportunity of being among you, and even of shaking hands with you. It is worth having done the flight to be among you.

"I want to thank you, and all



HULL'S GIFT TO "JOHNNY": Made by Cartier, the globe is silver with the countries in gold; the route in red enamel, and the names in black. The column mount and base are silver, and the pedestal of lapis lazuli, with the arms of Hull in blue and gold enamel.

the Youth of Great Britain, for this marvellous gift. I suppose it is a loving cup, such as I was given in Australia, and I want it to be emblematic of the love that the Youth of this country must bear for one another. I hope that we are going to do something big together for England.

"I have received so many congratulations that I want to congratulate every one of the distinguished guests who have themselves put up marvellous performances. It is impossible to single out one in particular, but I trust that you will forgive me if I mention Miss Winifred Brown and Miss Marjorie Foster, whose achievements are so fresh in the minds of the public."

She thanked the *Daily Mail* for the £10,000 presented her that day, and Sir Sefton Brancker for his encouragement before the flight, which meant more to her than she could say, and also for the honour he had conferred upon her. She would do her utmost to be, not an "honorary" member, but an "ordinary" member of the Guild, for she wanted to do everything she could to help aviation in this country.

Miss Johnson said she thought her flight had achieved far more than its due in publicity (especially as regards Press "headlines" and sensational reports)—she was the first woman to make the flight, it was true, but let it go at that. Regarding the flight itself, Miss Johnson said—"What preparations did I make for my flight? I am popularly supposed to have gone down to Croydon, jumped into the machine and said 'Cheerio!' without any sort of preparation whatever. I do not believe in safety first, because I do not think it gets us anywhere; but I do believe in taking every precaution you can and then taking risks."

"I worked for eight solid months with the engineers of the London Aero Club. I learnt navigation under the auspices of the Air Ministry, and I learnt piloting with the London Aero Club instructors. I not only prepared in this way, but I also tried to make myself physically fit, because I knew what an important part physical endurance was going to play. Now I am jolly glad of what I did, because of the after-effects of my flight."

As to her future plans, Miss Johnson said she had none. She was going to work as hard as she could—more by example than, she hoped, by talking—and at the end of her eight months' work for the *Daily Mail* she hoped to "do something."

On the question of the support that flying should be given in this country, Miss Johnson said—

"Flying must be a heart-and-soul job, not a pastime, and I appeal to everybody here, and to the country, to help heartily and generously in this work. The Youth of this country will join with me in doing everything it can actively to further this ideal, for I think England is ready to make a decisive bid for world supremacy in the air, and if we think we can, then we will. I want you all to help me, and what I can do I am going to do whole-heartedly. So let me ask for your co-operation and help."

E. Bartlett, Maj. K. M. Beaumont, Capt. H. R. S. Brkin, M. L. Bleriot, Flight-Lt. W. S. Bulman, the Misses Burton, Capt. Cazalet, M.P., Miss D. Chambers, Flight Lt. and Mrs. Chick, Miss H. Cohen, Mr. T. D. A. Collett, Maj. Colin Cooper, Mr. N. C. D. Colman, M.P., Miss M. Cottle, Miss V. Cordery, Miss A. Croft, Sir Charles Delme-Radcliffe, Kathleen Countess of Drogheda, Mr. R. A. Duncan, Mr. C. Dunfee, M. Istvan Eszterhas, Dr. N. Fodor, Rosita Forbes, Miss J. Forbes-Robertson, Capt. W. A. Goddard, Mr. E. Goossens, Mr. L. Goossens, Mr. Claude Graham-White, Mr. C. Graves, Miss Harmsworth, Mr. R. Hartley, Miss N. Heath, Squadron Leader H. B. Hinkler, Air Commodore F. V. Holt, the Lord Mayor and Lady Mayoress of Hull, Mr. and Mrs. J. W. Johnson, and the Misses Johnson, Lt.-Cdr. G. Kidston, Mr. L. Lane, Mr. C. Laughton, Miss A. Lee, Miss G. A. Lunn, Miss H. M. Lyon, Capt. N. Macmillan, Mr. E. Marjoribanks, M.P., Mr. S. F. Markham, M.P., the Hon. H. Mond, M.P., Miss V. Montgomery, Lady Patricia Moore, Mr. W. S. Morrison, M.P., Mr. H. Nash, Mr. B. N. chols, Mr. Ivor Novello, Squadron Leader Orlebar and Mrs. Orlebar, Miss G. Outhwaite Lt.-Col. H. W. S. Outram, M. Louis Paulhan, Lord Pentland, Capt. E. W. Percival, Cdr. H. E. Perrin, Squadron Leader A. E. Pettingell, Mr. Harry Preston, Mr. T. Purvis, Miss Joan Ridley, Sir Alliot Roe, Mr. E. Sackville-West, Flight Lt. H. M. Schofield, the Master of Sempill, Flight Lt. G. H. Stainforth, Dr. Bela Szabo, Capt. J. C. C. Taylor, Dr. G. Takats, Lt.-Col. N. G. Thwaites, Mr. F. Tymms, Mr. A. Vickers, Flying Officer A. F. Waghorn, Mr. A. Waugh, Mr. E. Waugh, Miss V. White, Sir Arthur Whitten Brown, Flight Lt. C. B. Wilson, and Capt. A. B. Youell.

At Hull

On Monday, August 11, Miss Johnson returned to Hull, her home town. In the morning, before leaving London, she was received by the King and Queen at Buckingham Palace, where His Majesty conferred on her the C.B.E., which



MISS AMY JOHNSON AT CAIRO : When Miss Johnson reached Cairo on her way home, she visited the Pyramids, and is seen above piloting a camel, as a change from a "Moth."

Mr. J. H. Thomas, Secretary for the Dominions, proposing the health of the chairman, as usual made a very humorous speech, but to the point. He said that on behalf of His Majesty's Government—who in these matters were not entirely disinterested—they observed that Miss Johnson's income had increased by £10,000! Much, he proceeded, had been said of Miss Johnson's triumph; he supposed the historian would note it and inscribe it as something memorable in the history of our race.

What would make Miss Johnson's achievement live long after we were dead was that it had enabled us to say to her in the year 1930: "Yes, you have performed a wonderful deed. You have accomplished a great achievement, and, what makes us more proud than anything else is that, by that achievement, you have given the world an indication that the old spirit of courage, character, perseverance, and independence, which made this nation great, is not yet lost. That was the greatest achievement of all."

Mr. Harmsworth responded briefly, and stated that before Miss Johnson started on her campaign she would have a thorough rest.

Among those who accepted invitations were:

Mrs. J. H. Thomas, Lord Wakefield, Sir Granville and Lady Ryrle, Sir Philip Sassoon, M.P., Mrs. Alan Butler, Mr. R. C. Sherriff, Miss J. Manning-Sanders, Mr. H. W. Austin, Miss Sylvia Thompson, Lt.-Col. W. A. Bishop, Capt. Woolf Barnato, Mrs. Whittingstall, Sir William Morris, Sir George Sutton, Mr. Noel Coward, Miss Gwen frangcon Davies, Mr. S. C. Jagger, Miss M. Warde, Mr. F. Owen, M.P., Miss Sidonie Goossens, the Hon. Oliver Stanley, M.P., Mr. and Mrs. O. I. Pulvermacher, Mr. H. M. Abrahams, Mr. B. Aherne, Mr. J. L. Baird, Dr. G. Bansaghy, Capt. and Mrs. C. D. Barnard, Miss

the King awarded on his birthday, in recognition of her flight to Australia. Miss Johnson was accompanied by Sir Sefton Brancker, and after the Investiture, the King and Queen, who had only just arrived back from Cowes, congratulated her and talked for some time concerning the flight and about flying. On leaving, His Majesty wished her good luck on her journey home to Hull.

As might be expected, the scenes in Hull when Miss Johnson arrived there were even more remarkable than the demonstrations in London just recorded. In the first place, Miss Johnson flew there from Stag Lane in her famous "Moth," Jason. Secondly, her reception at the Municipal Aerodrome and in the city of Hull was one of extreme enthusiasm.

Eight aeroplanes of the Hull Aero Club met Miss Johnson over Lincolnshire and escorted her to Hedon, where she landed punctually at 4 p.m.

Huge crowds and all the notabilities of Hull were there to welcome her; and the first to greet her on landing was her grandfather, Mr. Andrew Johnson, who is 78. The Lord Mayor, Councillor Richardson, and the Lady Mayoress received Miss Johnson officially, and after tea in the club house—incidentally, she was made an honorary life member of the Hull Aero Club—she set out on a triumphant processional drive to the City Hall, through six miles of cheering people; throughout the drive, Miss Johnson stood on the seat of the car waving to the crowd.

Nearly 3,000 people received her in the City Hall, where the Lord Mayor presented her with an address of welcome and gifts from the citizens. In his speech, the Lord Mayor

referred to Miss Johnson as Hull's "greatest woman citizen." Miss Johnson, replying, repeated her call to the Youth of Britain—"Abandon the motto 'Safety first,'" she said, "There are lots of things that have to come before safety first. Our country, England, must come before safety. We must try to inspire the Youth of our country so that they will cease to look to the Government to help them; cease to cast envious eyes on the wealthy or the idle rich.

"I want them to consider that the best-equipped man is the one left only with two strong arms, the heart of a lion, and the determination to devote his life to the service of his country. That is all the capital the young man ever requires, or ever had, who did anything big for his country or whoever has carved from the rock of fate some niche for himself.

"I owe a great deal of gratitude to all Australia for what it did for me; to the Air Ministry and to *The Daily Mail*, which has now founded a tradition of generous encouragement to pioneer airmen."

In the evening, Miss Johnson had to face the ordeal of a Civic Banquet and further scenes of enthusiasm, and the following day she was the guest of honour of the Rotary Club, where she was presented with a handsome travelling clock. An illustration of Hull's handsome gift to her, a silver and gold globe, is shown on page 917. It is 12-in. high, and the inscription reads:—"Presented to Miss Amy Johnson, C.B.E., as part of a public testimonial from her native city of Hull to commemorate the first woman's lone flight to Australia, May 5 to 24, 1930."

Miss Amy Johnson's doctor has advised her to have a complete rest after her engagements at Hull, and the visit to Yarmouth, fixed for to-day, has been postponed.

A donation of £105 has been sent by Miss Amy Johnson to the "Airman Hook Memorial Fund," which is being raised to help the widow of Mr. Eric Hook, who crashed in Burma while flying to Australia.

CROYDON WEEKLY NOTES

It is very difficult to get any news items out of the S.A.B.E.N.A. people. Their services to Belgium run with such quiet regularity and efficiency that there is no "copy" to be made of them. Since they started their night mail to Brussels in the early Spring I understand it has run with 100 per cent. regularity each way. Which fact certainly deserves mention and congratulation. Though S.A.B.E.N.A. is the least talked-off company on the Croydon air port it has a record second to none. Their enterprise in securing British machines, in the shape of Westland Wessex, is to be admired, and we hope other firms will follow them.

Private owners and others flying to Ireland will be interested to hear of Capt. G. Rose's experience at Baldonnel last week. On Bank Holiday he took the Walcot Air Line's machine G-AAGU over there, arriving at 8.30 p.m. But it was not until 11 p.m. that he was able to leave the aerodrome owing to the absence of a customs officer, and the consequent delay. The following morning he covered the distance back to Croydon in less time than he had wasted at Baldonnel the previous night.

The A.D.C. Aircraft Co., Ltd., are justly proud of their pilot, Mr. Thorn, and his performance in the Circuit of Europe. Though he did not win he hung persistently on to the tails of much faster machines round the whole course and was the first to arrive in Paris. His "Hermes" engine ran unflinchingly all the time and brought him out at the top in the petrol consumption test, at a rate of only $4\frac{1}{2}$ gallons per hour. The fact that his machine lacked folding wings and certain accessories lost him many marks which would have given him a valuable lead. But that is no reflection on the sound running of his engine, which interests A.D.C. most.

Mr. Ibell has definitely advanced the popularity of B.P. petrol since he came to Croydon, and has made himself thoroughly popular with everyone by his tact and personality. The Deutsche Luft Hansa machines are now all charged with B.P. here, and the new filling station which has been built at the north end of the aerodrome will be most useful to

visiting aircraft. It is the largest fuelling point we have now and the electrically-operated pumps will give a very speedy service to those pilots who choose B.P. as their fuel.

It is most interesting to see the varied types of amphibians which have come our way recently. One Cirrus-engined Moth Amphibian is a frequent visitor, but two of the new "Saro" machines have been up from Cowes in the last fortnight. Both the "Cloud" and the "Cutty Sark" are excellent specimens of their type and thoroughly well built. Mr. A. Holt has parted with his Fokker G-EBZJ, and bought a "Cloud" with two Canadian-built "Whirlwind" engines. It is good that this engine is obtainable in a British form.

But the strangest craft of all was the Loening Amphibian which dropped in on Friday evening. Judging from the dozens of autographs on the elevators it had crossed on the "Leviathan" from New York and first tasted British salt at Calshot. Not only are its lines unusual but its construction, aluminium panels screwed to wooden frames, is distinctly unorthodox. The type markets well in America.

Imperial Airways inland service has had to be adjusted to suit late-rising North country merchants, and from August 12 leaves Liverpool at 9 a.m., two hours later than before. Instead of linking up with the 10.30 service to Paris it now catches the Noon Silver Wing on Tuesdays, Thursdays and Saturdays. The north bound machine on Bank Holiday finished the day joy-riding at Liverpool. In the afternoon it took up over 880 passengers.

Bookings to Le Touquet were reported by Imperials to be very heavy over the week-end. The passengers who went with Capt. Olley to Deauville last Wednesday must have been delighted when it was found that the new aerodrome at Villeville was unusable. Seeing that the tide was out, Olley flew over the beach in the Handley Page W 10 and landed almost on the doorstep of the Royal Hotel, which was his party's destination.

1,503 passengers and 74 tons of freight was the tally for this week.

M. L.



A BLUEBIRD PROJECT: Mrs Victor Bruce has just taken delivery of a Blackburn Bluebird (Gipsy II) and is spending most of her time in the air at Brooklands, where she took her "A" licence.

It is rumoured that she will shortly be undertaking a long distance flight. At present she is studying air navigation and taking many cross-country flights in England.

AIRISMS FROM THE FOUR WINDS

The Prince Flies from Le Touquet

THE Prince of Wales flew in his D.H. "Puss Moth" from Le Touquet to his private landing-ground near Fort Belvedere, Sunningdale, on August 7. He left Le Touquet at 7.25 in the evening and landed at Sunningdale at 9.5.

R.100 Visits Ottawa and Toronto

THE damage to the fin of R 100 (briefly referred to in the official log published in last week's issue of FLIGHT) having been repaired, the airship left the St. Hubert (Montreal) mooring mast at 6.15 p.m. on August 10 for an inland tour of Canada. Following the course of the St. Lawrence river, in a gusty wind, she headed for Ottawa, and on reaching the capital circled the Peace Tower, dipping her nose in salute to Canada's war dead. The airship then flew on to Toronto, passed over the Niagara Falls at dawn, and eventually returned to the mast at St. Hubert on Monday evening, after a cruise lasting 23 hours. It was found, on her return, that the forward starboard engine had been damaged and some adjacent fabric torn. The latter was repaired, but it was officially announced that R 100 would carry out the return flight to England with the faulty engine out of action. The return flight was due to start at 3 a.m. (B.S.T.) yesterday, Thursday.

Australia-England Flight

MR. ANDREW CUNNINGHAM, the Australian pilot who left Wyndham on August 5 for Bima, en route for England, and was reported missing last week, is now stated to be safe. It appears that he made a forced landing on the Island of Flores, Dutch East Indies, he was uninjured and his "Hermes"-engined "Genairco" biplane was undamaged.

Seattle-Tokio Flight

TWO American pilots, Robert Wark and Edward Brown, took off from Seattle at 11.30 a.m. on August 10, in a Fokker biplane on a flight to Tokio, via Alaska. They had to make a forced landing at Vancouver owing to fuel supply trouble.

Autogiro's Channel Flight

SEÑOR DE LA CIERVA left Croydon on August 5 in his "Autogiro" en route for Le Bourget. After crossing the Channel he was forced to land at Abbeville, where he was detained by bad weather, but eventually reached Le Bourget at 9.15 p.m. on August 6.

Chicago International Air Meet

FLIGHT-LIEUT. ATCHERLEY, who, as reported last week, is representing Great Britain in the Chicago International Air Meet—left Southampton on August 10 in the liner *Leviathan*. He is taking with him in the *Leviathan* his own aeroplane—a Blackburn "Lincock" high-speed, single-seater training machine fitted with a 220 h.p. Armstrong-Siddeley "Lynx" engine. The participation of European pilots and machines at the American National Air Races has been arranged by Lieut. Alford Williams, the famous American pilot. Lieut. Williams arrived in England two weeks ago to convey official invitations from the city of Chicago. Besides Flight-Lieut. Atcherley he has secured the following representation:—

France—M. Marcel Doret and a Dewoitine machine;

Italy—Flying Officer Pietro Colombo and a Breda machine;

Germany—Capt. Fritz Loose and a Junkers machine.

Each of these pilots also sailed in the *Leviathan* on Sunday and took with them their aeroplanes. An official reception is being prepared for them in New York, and they will later fly in international formation from New York to Chicago.

The Circuit of Italy

THE Italian Air Attaché informs us that he will be pleased to assist any British pilots who may wish to take part in the Circuit of Italy air race, which takes place from August 20 to August 30 (see FLIGHT, June 6, 1930, p. 605). Entries may be received up to August 19, when telegrams will be sent out on their behalf. Applications should be sent to Lieut.-Col. P. F. Bitossi, 25, Chester Street, Belgrave Square, London, S.W.1.

Mr. T. O. M. Sopwith a Member of the Royal Yacht Squadron

MR. T. O. M. SOPWITH, who, as our readers are no doubt aware, is a keen yachtsman, was elected a member of the Royal Yacht Squadron last week.

Cherbourg-Paris Air Service

A NEW daily air service from Cherbourg to Paris was inaugurated on August 1. The machines meet incoming liners and take passengers on to Paris.

Rio de Janeiro-La Paz Air Service

A COMMERCIAL aeroplane service has been opened between Rio de Janeiro and La Paz, Bolivia.

Franco-Polish Air Convention

ON July 2, M. Laurent Eynac, the French Air Minister, signed a convention at Warsaw for the improvement of commercial aviation between France and Poland: the convention is to last for 10 years.

Ryan Aircraft Corporation Closes Down

It is reported that the Ryan Aircraft Corporation of America has closed down owing to business depression.

France to Adopt Forest Fire Fighting by Air

THE Chambers of Commerce of Nice and Nîmes are considering the question of fighting the forest fires in the south of France with the aid of aircraft—as has been done for some considerable time past in Canada. The scheme now under consideration has been worked out in considerable detail, and aircraft will be used for the discovery of fires in their early stages, the pilots giving the fire warning by wireless. Other 'planes would then carry teams of fire fighters to the threatened area, and the operations of the men on the ground would be directed from the air. It is also suggested that bombs containing fire-extinguishing liquids would be dropped among the burning trees.

The Handley-Page Slot in Finland

ALTHOUGH several of the British aircraft supplied to Finland are already fitted with the Handley-Page automatic slot, arrangements have now been made for this device to be manufactured under licence in that country.

Blimp Takes Off Passenger from Liner

WHEN Mr. P. W. Litchfield, president of the Goodyear Zeppelin Co., reached New York from England in the *Bremen* on July 31, the Goodyear blimp *Mayflower* landed on the deck of the liner, took Mr. Litchfield aboard, and then sailed ashore, landing her passenger some hours before the liner was docked.

Swedish Air Lines

THE traffic on the Swedish air lines showed a considerable increase during 1929. Such was particularly the case on the Stockholm-Helsingfors line, where there was an increase of 60 per cent., or a total of 1,782 passengers. During the present season the amount of traffic shows another strong increase, and therefore, two 'planes instead of one start every day in both directions. The London-Paris-Brussels-Amsterdam-Hamburg-Copenhagen-Malmö route has also had a considerable number of passengers, many of whom were foreigners coming to Scandinavia as tourists or on business. Among the passengers on both lines Swedes and Americans were in the majority, the latter representing 15 per cent. of the total.

Aerial Photography in Canada

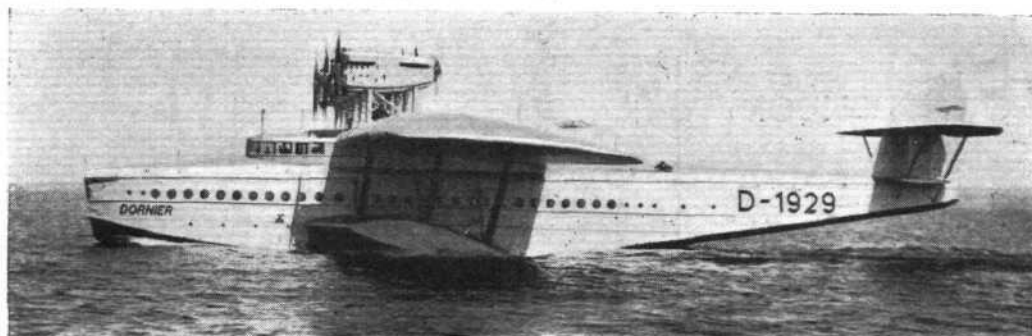
TWENTY-SIX aeroplanes, working in thirteen detachments are now engaged throughout Canada in aerial photography and surveying for the Dominion Government. For the past few years Canada has been the leader in the work of taking photographs from the air for map making and for aerial surveys of large areas of practically unexplored territories. This year's programme of such work has the world's largest aerial photographic fleet on the task and it is hoped that before the end of the season another 100,000 miles of country will be recorded on photographic negatives.

The "Puss Moth" in Canada

THE first D.H. "Puss Moth" to arrive in Canada has just completed a 6,050-mile tour, piloted by Maj. G. O'Brian and Mr. G. Nickleborough. They flew from Toronto to Vancouver and back in 58 hours' flying time, or at an average speed of 104 m.p.h. The 1,400 miles from Toronto to Winnipeg was covered in one day. Over 250 passengers were carried during the tour, and the cities visited included Brandon, Regina, Moose Jaw, Medicine Hat, Calgary, High River, Cranbrooke, Grandfalls, Lethbridge, Edmonton, North Battleford and Saskatoon. The "Gipsy" engine behaved splendidly throughout the tour, for which Wakefield Castrol XXI was used.

Jones-Williams Memorial Fund

A GOOD full face photograph of the late Flight-Lt. N. H. Jenkins, O.B.E., D.F.C., D.S.M., is required by the above fund for presentation to the R.A.F. College, Cranwell, and we have been asked by the Hon. Secretary if any of our readers who may possess such a photograph would be kind enough to lend it? If so, would they send it to him at R.A.F. Station, Kenley, Surrey.



THE DORNIER DO. X.

THE DO. X. is now afloat again and has 12 Curtiss Conqueror type G.V. 15 per cent. 600 H.P. water-cooled engines installed. These are geared and mounted, as were the Jupiter engines, in six tandem nacelles.

The lower photographs show the excellent internal arrangements which have been made for the passengers' comfort, and also the tasteful interior decoration. The engines are accessible during flight, and by means of a small alley-way along the wing the mechanics are able to go from engine to engine, and should any engine stop and require attention this can readily be undertaken.



Smith's Instruments in Poland

SMITH'S AIRCRAFT INSTRUMENTS, which is a branch of S. Smith and Sons, Great Portland Street, London, W.1, have had a stand at the International Transport Exhibition at Posen, in Poland, and received the second Government Prize and Honorary Diploma. They are believed to be the only British firm with a stand of their own at the exhibition. This enterprise on their part has already secured for them a large amount of foreign business.

Further orders will no doubt shortly accrue from the activities on their behalf of Capt. Stack, who is touring that part of the country in his Moth ("Hermes.") He has had the machine equipped with a full range of Smith's instruments since he joined that firm and it therefore serves as a very telling travelling show case.

"Hermes" Engines in the Touring Competition

COMMENT has been made on our correspondent's paragraph in last week's FLIGHT, where during the description of the consumption tests in the International Touring Competition, he expressed the opinion that all the engines had been tuned down for low consumption, and that since the actual Circuit of Europe part of the trial the majority of pilots had fitted small jets and made other adjustments conducive of economy. As far as the "Hermes" engine in Mr. Thorn's "Avian" goes, this was not touched in any way, and was flown in exactly the same state as during the Circuit. This is most remarkable as he is believed to have gained top marks for the consumption test, and he certainly had sufficient power to take-off in a normal manner which many of the other competitors did not.

NO. 601 (COUNTY OF LONDON) (BOMBER) SQUADRON, A.A.F.

BY F. A. DE V. ROBERTSON

THOUGH the County of London Bomber Squadron undoubtedly suffered a severe loss through the lamented death of its late C.O., Lord Edward Grosvenor, it is certainly succeeding in living up to the high standard which he set. It is fortunate in its new C.O., Squadron Leader Sir Philip Sassoon, late Under-Secretary for Air. Lord Edward was a war-time pilot in the R.N.A.S., who served with Samson in Flanders. Sir Philip Sassoon has only recently learnt to fly, but there is no doubt that he will carry on the good work. The squadron has been in camp at Lympne, putting on a final polish, and it now forms part of No. 53 Wing in the air force of Blue Colony, and is doing its part in upsetting the work of the copper industry which Red Colony carries on round Hucknall and Birchem Newton. This Wing is commanded by Wing Commander F. P. Don, and comprises three squadrons of the Auxiliary Air Force, namely, the County of London, the City of London, and the County of Warwick Bomber Squadrons. It is a unique event for an Auxiliary Bomber Wing to be formed and to take part in manœuvres on a grand scale, and all the three squadrons are to be congratulated on the honour done them. The County of London went into camp with its complement of 14 Wapitis on Saturday, August 9. The members of the squadron, both officers and men, habitually put in a lot of practice at Hendon each week-end, and when they get to camp they are well up in the work which has to be done. But a volunteer unit, whatever element it works in, when it goes to camp resembles Kipling's ship at the commencement of the voyage. All parts are present and correct, and each does its own bit of work, but all work as individuals. By the end of the voyage, the ship has found herself. It is no disparagement to the County of London Squadron to say, without special knowledge, that when they started for camp they must have been a collection of parts. It is perfectly safe to affirm that by now they are a Squadron.

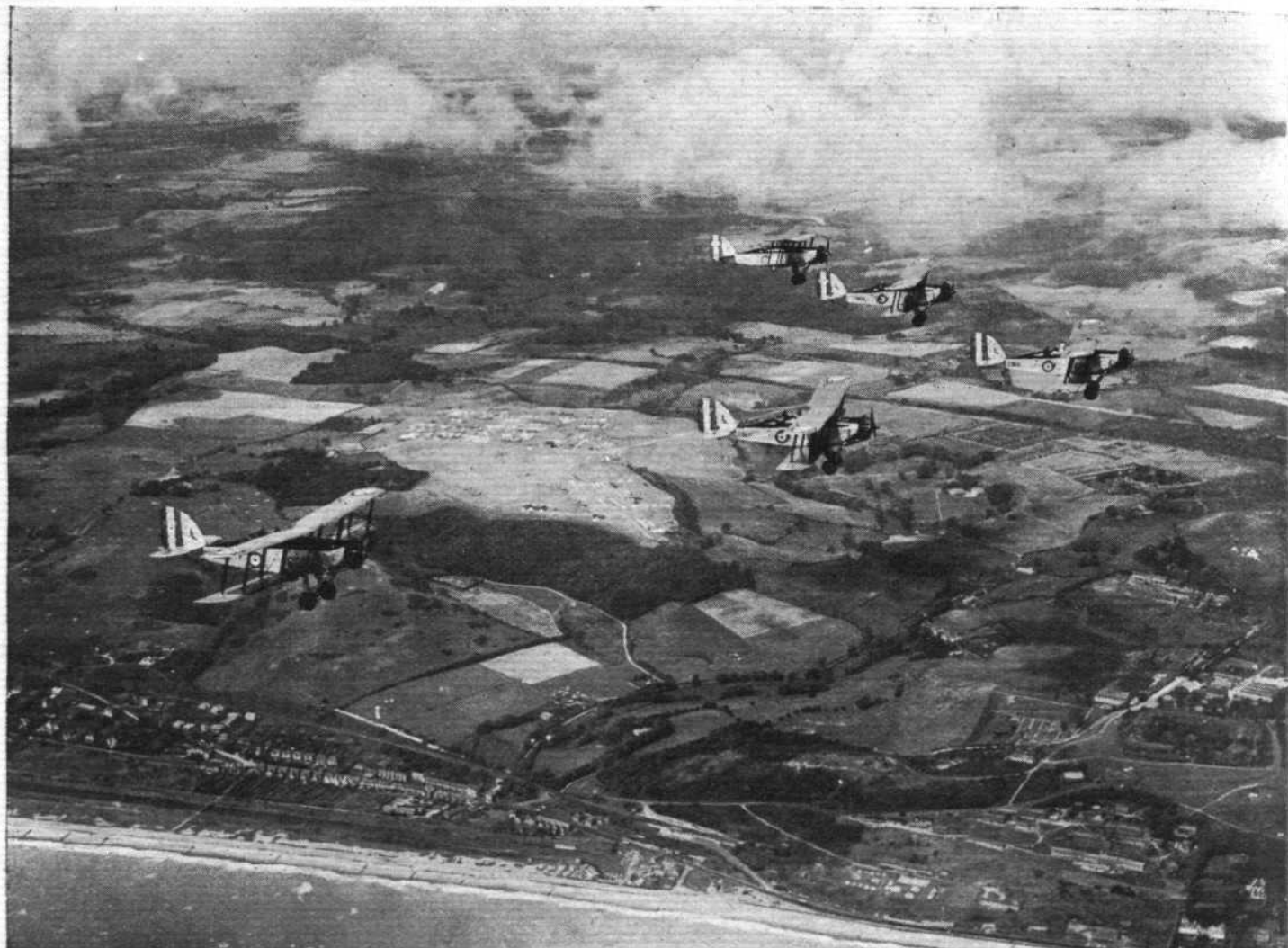
Camp always works wonders. Manœuvres are sure to work still greater wonders. Perhaps by the end of this week, No. 53 Wing will be a Wing. If it is, the end of the exercises will be somewhat of a tragedy, dissolving a thing which it is very difficult to bring into being. But whatever may happen to the Wing, it is safe to say that the manœuvres will do a tremendous lot of good to each of the three squadrons which compose it. Many of the men who have enlisted as airmen in No. 601 are now coming to the end of their four years' term of agreement, and presumably some of them will then leave the squadron. They will, however, be able to hand on to their successors a tradition of good work and of *esprit de corps* which should inspire the recruits. Those who re-engage will form a nucleus round which the squadron will re-form. Each of them will be, in Kipling's words:—

"A man that's too good to be lost you,
A man that is 'andled an' made—
A man that will pay what 'e cost you
In learnin' the others their trade."

A unique "aerial" of five
"Wapitis" flying in formation
above the clouds.—(FLIGHT Photo.)







No. 601 (COUNTY OF LONDON)

At the top of this page we show five of the "Wapitis" of No. 601 (County of London) Bomber Squadron, A.A.F., led by Flight-Lieut. Whitehead Reid, M.B., flying along the coast near Folkestone. In the middle distance will be seen Shorncliffe Camp.

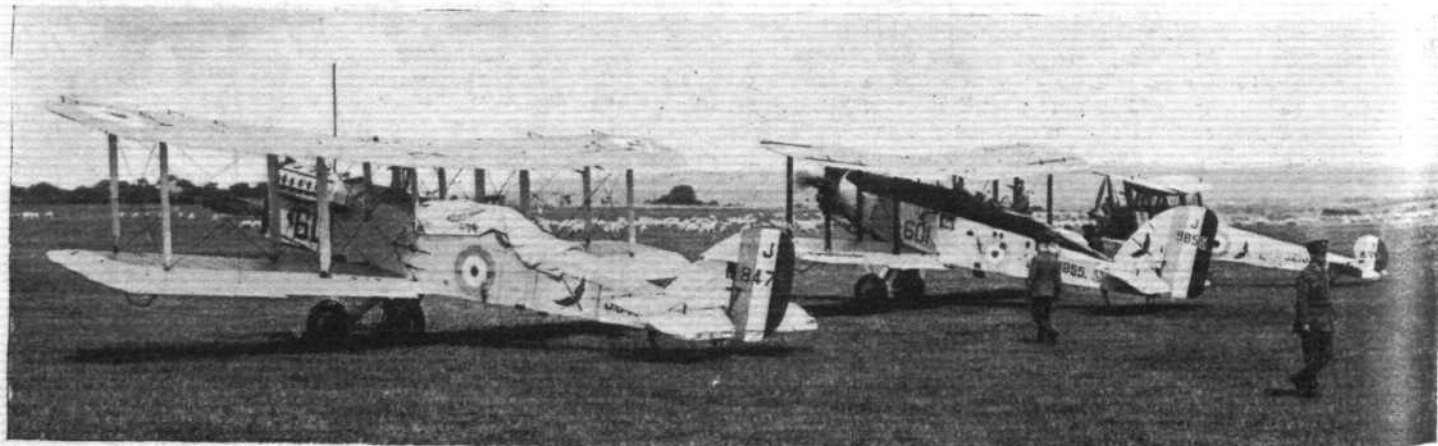
The Senior Officers of the Squadron are shown in the



centre; they are, from left to right.—Flight-Lieuts. Whitehead Reid, J. J. Parkes, H. N. Thornton and S. B. Collett.

Below we have the three types of machines with which this Squadron is equipped, namely, on the left: the D.H.9, of which there are four; centre the Westland "Wapiti," which number eight, and finally sundry Avro "Lynx" biplanes.

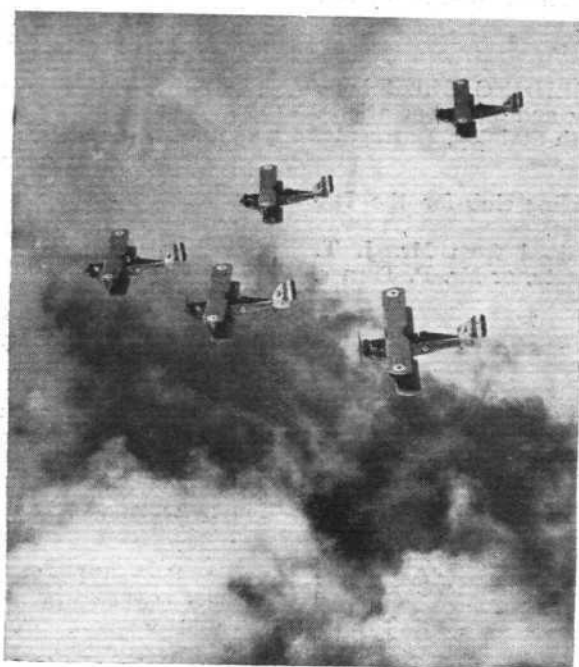
(FLIGHT Photos.)





No. 601 (COUNTY OF LONDON)

THE first picture on this page shows the officers of No. 601 (County of London) (Bomber) Squadron, A.A.F. Reading from left to right they are: P./O. Peter Du Cane; P./O. A. C. M. Jackaman; F./O. Norman Jones; P./O. the Hon. G. R. Ward; F./O. A. G. Haward; Flight-Lieut. S. B. Collett; Flight-Lieut. H. N. Thornton (Adjutant); Flight-Lieut. J. J. Parkes; F./O. Rupert Bellville; F./O. Ian Murray; F./O. J.



Gillan (Asst. Adjt.); P./O. the Hon. W. D. S. Montagu; P./O. B. S. Thynne; P./O. Loel Guinness; F./O. R. G. Shaw; D.F.C.; and F./O. W. Langdon.

In the centre we have another view of the "Wapitis" of 601 Squadron flying above the clouds.

The last picture on the bottom of this page is an aerial view of Lympe aerodrome, where No. 601 (County of London) (Bomber) Squadron has been in camp and taking part in the Manœuvres. No. 601 Squadron will be seen encamped on the right of the picture.

(FLIGHT Photos.)



GLIDING

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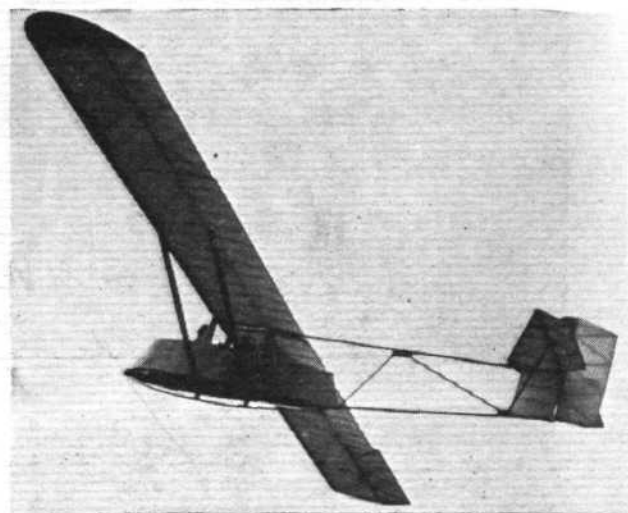
THE BRITISH GLIDING ASSOCIATION.—Last week we were able to publish a list of the Gliding Clubs in existence and of those in formation. In the former we included the British Gliding Association, and it has been pointed out to us that in doing so we have rather mis-stated the position. In point of fact, the B.G.A. is, of course, the guiding body of those many gliding clubs which are affiliated to it and is in no sense a club. The B.G.A. does not carry on any club activities at all and confines itself entirely to the regulatory side of the sport. Its inclusion in this list was merely in order that the address might be ready to hand for our readers, and we rather assumed that, since its value to the movement is so well known, no one would think that it had thereby become a club.

THE LONDON GENERAL OMNIBUS CO. are the latest to form a gliding club. It is being organised by Mr. E. Gordon, of West Green, N. Garage.

THE ILKLEY AND DISTRICT GLIDING CLUB hope to obtain their first glider shortly and start operations. The address of the Hon. Sec. is: South Stanley, Harrogate.

THANET GLIDING CLUB.—A gliding club for the Isle of Thanet is in process of formation.

Further information can be obtained from Mr. J. T. Huddleston, 17, Chapel Place, Ramsgate, or Mr. P. Turner, 13, George Street, Ramsgate.



The Poppenhausen. A two-seater glider at Ivinghoe Beacon. (FLIGHT Photo.)

BRIDLINGTON GLIDING CLUB.—We are informed that this club is now an actual fact and is in a healthy condition, financially and otherwise.

One machine is on order, and meanwhile the members are busy learning the theory of gliding.

An excellent ground has been secured at Fordon, eight miles away. A licensed landing ground has also been placed at the disposal of members or visiting power machines.

The subscriptions are £3 3s. for flying members, and affiliation to B.G.A. has been applied for.

The address of the secretary is A. Topham, Crescent Court, Esplanade, Bridlington.

PORTSMOUTH AND SOUTHSEA GLIDING CLUB.

The Portsmouth and Southsea Gliding Club has made splendid progress. A little over two months ago the first meeting was called, over which the Lord Mayor, Councillor J. E. Smith, presided, and that, with the following meeting at which Herr Kronfeld was present, brought the club into being. The initial membership of 120 has since grown steadily.

Two trophies, one by the Lord Mayor, and the other by the *Evening News* (Portsmouth), have been presented for competition between the members. Two local gentlemen, Mr. Geo. Cooper and Captain Long, and a local firm, Brickwoods, Ltd., have presented machines of the Zögling Type.

The Officers of the Club are: Chairman, Councillor J. Webb; Vice-chairman, G. Knight; hon. treasurer, J. M. Whitecross; hon. solicitor, L. Glanville; ground captain, C. A. Price, R.A.F.; hon. secretary, E. A. Finley Day.

The first outing of the club was when it assisted at the sailplane demonstration at Beacon Hill, South Harting, during which Herr Kronfeld and Herr Magersuppe gave demonstrations. At this meeting Mr. A. Price qualified for the "A" certificate.

On the following Monday the club held its first instruction meeting on the gliding site. Since then instruction has taken place almost every day. The duration of flight has steadily risen, and, in the opinion of the ground captain, a number of members are ready for test for the "A" certificate. One member has recently returned from Germany, where he has attended at an instruction centre, being successful in attaining proficiency to the extent of gaining the "C" certificate.

A club house has now been taken over on the Gliding site from the Portsmouth Racecourse, and permission has been granted by the War Office for the club to use the Southern side of Portsdown Hill. Club facilities are at the disposal of the members. Interested persons resident in the neighbourhood are invited to apply for full particulars of membership from the hon. secretary, Mr. E. A. Finley Day, King's Terrace, Southsea, or they may apply at the Club House, Wymering Racecourse, Portsmouth.

It is hoped that shortly the club will be in possession of a "Prüfling."



The cockpits of the Poppenhausen, taken at a recent meeting of the London Gliding Club. (FLIGHT Photo.)

THE SAIL-PLANE CLUB OF T.M.A.C. In spite of adverse weather conditions which prevailed at the Club's grounds last Sunday, August 10, twenty-one short flights were made on the Club's glider. Visibility was bad due to a heavy mist which was blowing in from the sea.

The experience which has been obtained during the first two meetings has shown that the club's grounds are thoroughly satisfactory for gliding purposes, and through the kindness of Mr. Baxter of Hove, the club will also be allowed to use property which adjoins the club's grounds for training purposes.

Until the erection of a hangar has been completed, meetings will only be held on Sundays at Smalldale, commencing at 10 a.m. sharp. Members are requested to make every effort to be as early as possible.

A workshop in London is being negotiated for, and it is hoped the club will be in a position to commence construction of advanced machines within a fortnight. Mr. Compton Paterson has prepared designs for two machines, and it is expected that these will provide something quite unique in the way of primary soaring machines.

Applications for membership should be made to the Hon. Secretary, Mr. John Welding, 404, King's Road, Chelsea.

PRIVATE FLYING AND CLUB NEWS



SINGAPORE FLYING CLUB

THE first-half of 1930 has been an eventful six months for this Club, and while much work has been gone through in improving the efficiency of members and the facilities for the handling of aircraft, much remains to be done in the future before the various troubles can be considered at an end. One cannot but think that, in their isolated position, they have had to learn many lessons by first-hand experience which could be gained from other clubs were they nearer home.

In March, they were unfortunate in losing their Club Captain, Flt.-Lt. D. V. Carnegie and Mr. G. W. A. Trimmer, the Wing Commodore, the latter only temporarily, while he is on home leave. Flt.-Lt. J. F. Titmas, of the R.A.F., has consented to become Club Captain, and Mr. F. G. London to become Wing Commodore. The Hon. Mr. M. B. Shelley has been appointed Government Representative in place of Captain G. Freyberg, R.N., owing to the latter leaving Singapore.

They are indebted to the O.C. the Far Eastern Command and Officers of the Royal Air Force stationed at Seletar, for their assistance in carrying out inspections and advising on modifications. From time to time various officers have given valuable instructions in the form of lectures to Club members.

Up to date, 10 private pilots' licences have been obtained this year. A point which is not appreciated as a rule out here, is that a man has a very thorough training before he passes out, and he must be 100 per cent. efficient. Apart from the question of safety, a damaged plane involves considerations other than finance, a point easily understood when it has taken as much as eight months to obtain spares which have been urgently required from home and ordered by cable.

In addition to the Club Instructor, Flt.-Lt. S. H. Potter, Messrs. G. Watts, H. W. Shook and Captain W. N. Blagden, are acting as Assisting Instructors and are putting in valuable time in supplying to Mr. Potter pupils who have been well grounded in the more elementary principles of flying.

Long-distance flying has not been attempted as it introduces an element of risk which the Club is unable to face. Competent pilots are sent round Singapore Island at frequent intervals, a distance of about 70 miles over

comparatively sheltered water, in order to accustom them to flying away from the area they soon get to know so well.

The Flying Club had the honour of being represented on the occasion of the parade in honour of H.M. The King's Birthday. Two machines were flown past the saluting base and afterwards flew in formation with the flying-boat, sent by the R.A.F., round the town.

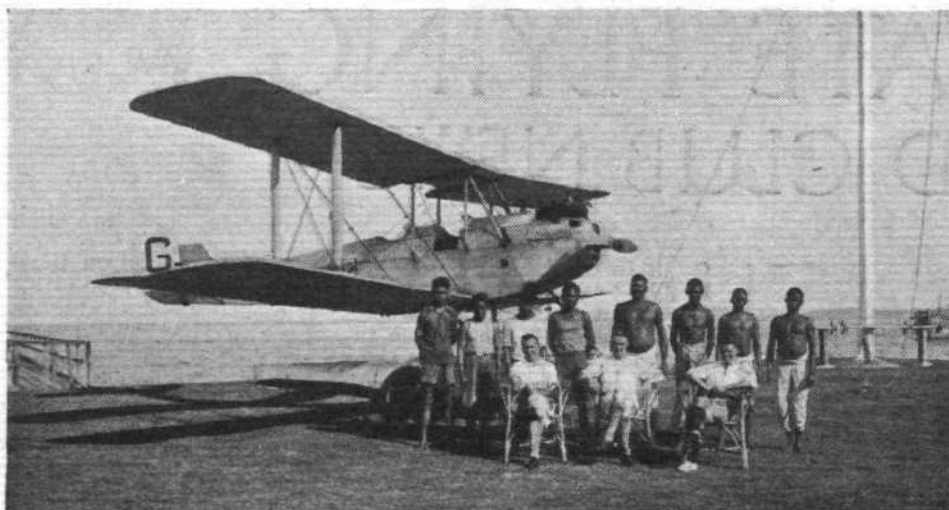
On the occasion of the arrival of Miss Amy Johnson, two machines were sent out to meet her and escort her to Seletar Aerodrome. The two machines flew up the Johore River and circled round near its source over the village of Kota Tinggi. After flying round for about a quarter of an hour, her aeroplane was seen approaching from the east coast. The Club machines then turned and flew in line abreast about 400 yards apart; Miss Johnson passed between and they then closed up into formation and headed for Seletar. In the process it was soon discovered that the speed of the sea planes was greatly below hers, owing to the drag of the float undercarriage. She soon saw this and throttled down to enable them to keep the formation. They circled round Seletar and watched her land. Next day the same machines escorted her out and continued with her for about an hour, after which they turned for home waving her farewell, to which she replied by blowing kisses. While in Singapore, the wing damaged in Ran- goon was replaced by one which the Club had ready for use. They consider themselves fortunate in having been able to assist her in her great flight.

Flying conditions have been good on the whole in the past six months, and the machines were able to fly during some part of the day on 92 days.

The ground engineering side is under the able direction of Mr. M. G. Harvey, who has under him Mr. C. Short as rigger and a native staff. Owing to the ravages of the sea and local climate conditions, the ground staff have to work at a pressure probably unknown at home; continual overhaul and inspection is the only method of keeping the machines airworthy and repairs of a nature have to be carried out which would never be contemplated elsewhere. In



The pleasant foreshore of the Singapore Club.



The European Staff of the Singapore Club with their "full" bodied native assistants.

addition, as sent out, the machines are quite unsuitable for seaplane work in the tropics, and many fittings have to be replaced by others of more suitable material. All this experience has been acquired first-hand by the Club as there is no one to help in the matter. It is worthy of note that in the whole of its career there have been only three forced landings due to engine trouble, which goes to show the excellence of the Mark III Cirrus.

There have been two accidents, in one case a machine was turned over in landing, and in the other, a machine hit the water after the pilot lost flying speed on a turn at 300 ft., from which he failed to recover. He and his passenger received a few bruises and a shock.

For the benefit of those who may be interested in the work of this Club, the instructor and the ground engineer have been asked to write their impressions of how the work here compares with that in England.

Flt.-Lt. S. H. Potter's Report.

After about ten months' instructing experience on seaplanes, I have come to the conclusion that it is not as easy as it appears at first sight. My previous experience had been on landplanes and the first thing that struck me here was the beautifully large stretch of water for a "landing ground." The terrors of approaching into a small aerodrome were unknown. Even the beginner has little difficulty in judging his approach. This simplifies landing instruction considerably, but more than counteracting this is the necessity of every soloist always making an almost perfect landing. The punishment for an indifferent landing on a seaplane is very much greater than for a similar landing on a landplane. To take an example—A pupil is about to make a landing on a seaplane, he approaches nicely, holds the machine off about 2 ft. above the water, gets his tail down as the machine loses flying speed, but as he is doing so, he unconsciously puts on rudder, so that the machine touches with drift on. The result is that the floats do not enter the water in the flight

path of the machine and offer resistance to its forward movement. One wing comes down and touches the water and the machine slowly turns over on its back. Probably two planes are written off, undercarriage and centre section struts are damaged and the whole becomes waterlogged. Every part of the machine has to be dismantled, opened up and reconditioned. The engine has to be completely dismantled immediately and cleaned and the Club lose the use of this machine for a month or six weeks. The repair bill is in the region of £125. A similar landing on a landplane would at the most mean a wrenched-off tyre or a bent axle, when the machine would be out of action for a few hours at the most. It therefore is necessary that every pupil is practically 100 per cent. perfect before he is allowed to go solo, and before each subsequent flight he has to be taken up dual to ensure that he has not struck a bad patch, or has not been "beating it up" the night previously.

This checking of his flying goes on even after he has got his licence, in some cases for quite a number of hours afterwards.

Again, the condition of the sea is never the same for long. During one day it may turn glassy, choppy, a long swell running, or just perfect (when the surface of the water is in tiny ripples). Each of these conditions means a different type of take-off. The surface of an aerodrome may be bad in places, but it is usually pretty much the same except in very wet or dry weather.

Taking-off on a landplane is comparatively simple, on a seaplane it takes longer to teach than landings. A seaplane takes off "tail down," and it is necessary for the pilot to adjust correctly the angle of the floats to the water. This angle varies a little according to the type of sea running, and it is here that the greatest training difficulty arises.

Taxying a landplane occupies only a small proportion of the pupil's flying training. On a seaplane taxying is very much more difficult. A seaplane on the water is never stationary, with the engine throttled back she is making about 3 knots forward speed. With the engine switched off she may be drifting at 2—3 knots, according to the tide and currents. Approaching the slipway or raft to change pilots or passengers is no mean feat when a 15-m.p.h. or greater wind is blowing and no water rudders fitted. The machine must be manoeuvred so that the floats miss the raft by 2 ft. or so in order that those on it may secure the machine by the lower plane. Currents, tides and the wind must be judged, otherwise the machine may miss the raft by yards, or, worse still, ram the raft head on, puncture the floats, with the possibility of the machine sinking before it can be rushed to the slipway. Compare this with merely taxying a land machine to the "tarmac." If the pupil on a land machine gets into difficulty, he has merely to throttle back, when the machine remains stationary, and wait for the assistance of mechanics on his wing tips. A pupil on a seaplane who gets into difficulties near an obstruction, such as a barge, cannot do this as even throttled back or with engine stopped, he may be faster than the barge. He is unable to get any assistance except possibly from a small motor-boat, which may be able to cast him a line and tow him to a safe position.

Reviewing the situation, briefly, I would say that seaplanes are safer to fly (conking engines do not trouble the heart!), but landplanes are much more interesting, as it is possible to go farther afield and to vary the training much more.

Mr. M. G. Harvey's Report.

The Club machines are all Cirrus Mark III Moths, and as all our flying is done in the open sea, one can quickly realise the many extra strains imposed on our light craft in landings and take-offs. At first, our troubles were many, but by adding strength to the weak spots, these difficulties have been overcome.



The Club aircraft in their hangar.

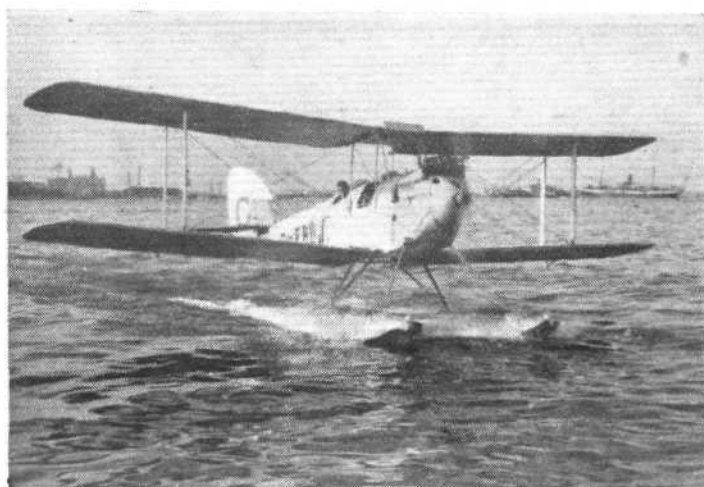
Our chief enemy is corrosion, for the water is extremely salt and the humidity is about 85 per cent. Aluminium components are completely eaten away to a powder in a very short period, and in the case of aluminium washers, these swell considerably when corroding and in doing so reduce the area of timber to approximately 50 per cent. of its original thickness. Needless to say aluminium is not now used, but has been replaced by stainless steel or phosphor bronze.

At times in take-offs a machine is almost lost to view in spray, this deposits salt everywhere. The most damage is suffered by the water getting inside the fuselage. To prevent deterioration to fabric and floats, all machines are washed and cleaned with fresh water immediately they return to the hangar after instruction has finished, this is carried out by means of a hose-pipe and all the staff are then employed drying and wiping down the machines.

In maintenance, there is no comparison between the landplane and the seaplane, the latter needs something like 300 per cent. more attention, for the machines have to be launched from and hauled up the slipway. In both launching and bringing the machines in, the staff get wet, which necessitates a change of clothing. The wooden members deteriorate more rapidly especially in the fuselage, as water gets between the fabric and the 3-ply. Float repairs, care of motor-boat and raft and slipway. Extra labour for cleaning fittings and all components from rust. Fabric deteriorates rapidly and fabric-covered components need recovering regularly, the maximum period before these are recovered is 12 months, as against three years in a landplane. A crash in a landplane finishes after the bump, but not so with the seaplane, for in nearly every case the machine overturns, leaving only the floats visible above the water. This necessitates recovering all fabric components as the water has got inside wings and broken all ribs and formers. Engine to strip down and wash and removal of base-ply of fuselage to allow interior to be thoroughly examined, cleaned and inspected and repaired.

Salvage.—This depends entirely on the condition of the machine after the crash, usually it overturns in taking off or landing, and if the undercarriage is undamaged, the machine is secured to the Club motor-boat, and then both taken in tow by a large launch and taken to a floating crane. The idea of the intermediate boat is to prevent the heavy wash from the larger craft further damaging the machine. As the native staff are good water men, ropes are secured under the water at suitable positions for hoisting. The machine is now lifted by the crane very slowly, nose first out of the water and the wings removed. The machine is then hoisted so that the tail is almost clear of the water and another rope is secured here by pulling the tail so that the floats are positioned right way up, the crane then lowers the machine and it rides on its floats again right way up. Both wings and machine are then towed to the slipway and then carried up into the hangar. In towing the machine, it is necessary to have somebody standing on the tail of each float, otherwise, it will be liable once more to turn on its nose and be necessary to fish it out again with the crane from amongst the varieties of Singapore's sharks, crocs and sea-snakes. Salvage at night under strong lamps, which attract the last in numbers, is rendered more exciting by the necessity of avoiding their attentions. All work must be finished the same day or night, leaving the engine stripped and cleaned and the machine likewise, to allow it to dry off. Tubular struts must be inspected for water-logging by drilling a small hole in the ends and washing with petrol and oil. In these disasters everybody rallies round and lends a hand with the work.

The native labour employed is purposely mixed so that they can take their various holidays without holding up the work. They consist of a Chinese, 4 Indians and 2 Malays. One Indian is a very useful fitter, and the head Indian fulfils many duties, including watchman, storekeeper, looks after the petrol and oil and fuelling, and assists on the machines when required. The gardener, a Malay, has



A Singapore Club aircraft in its native element.

gradually been absorbed into the hangar staff and has now reached such a state of efficiency that he can splice, fit an undercarriage, and is being instructed in fitting a centre section. The idea of training has been to have one man who can build an engine and carry out routine adjustments and overhaul a magneto, another to repair floats and fit and rig an undercarriage, etc., until it is possible to have a man who can do a particular group of jobs on the machines. Finally, every man will be trained to build both engine and machines. At present, we have only one native who can do this, he has been made foreman

and helps considerably by passing on his knowledge to the rest of the staff.

Periods of Inspection.—The usual daily inspection is carried out, but, in addition, rigid attention must be paid to all timber and controls, floats checked for leaks and the undercarriage particularly carefully examined, engine tappets adjusted and washers greased. Engine run and magnetos checked. Running-up has to be done with care, as unless carefully lashed to the trolley the machine is likely to move and in one case where this happened slightly, the native staff moved, let go, and moved away faster.

Every machine comes in after a fortnight's service and floats, controls, bracing wires and fittings are cleaned and repainted. The engine cowling is removed and engine and mountings checked and, in fact, an inspection carried out corresponding to a 50-hour routine on a landplane. Oil is changed every 25 hours. Castrol C is used on all engines.

Two Months' Routine.—The lower wings are opened up for inspection of the root fittings, also the tail unit. Aileron controls are removed for inspection.

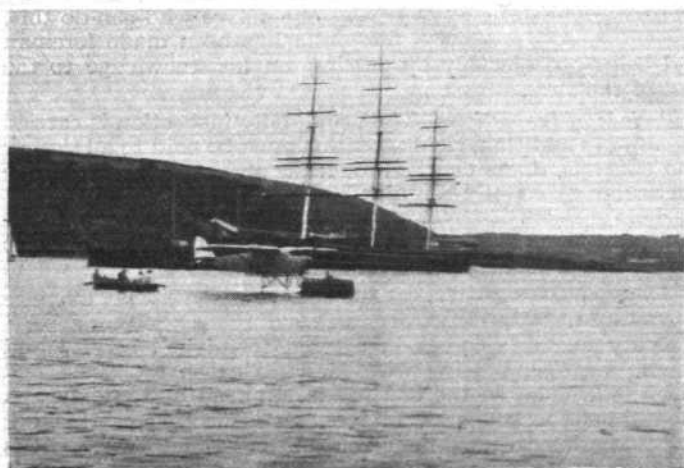
Three Months' Routine.—Undercarriage is removed complete for examination and cleaning, there is a spare undercarriage ready for fitting, so flying is not delayed more than necessary. (Special attention should be given to the float fuselage fittings and chassis struts, both are under modification by the makers, the former to be strengthened and the latter made from stainless steel with increased area of tube.) Elevator controls are removed cleaned free of paint and examined.

Six Months.—Wings removed for minor overhauls, cleaning chain and differential aileron box, remove all bolts for examination and clean and inspect all fittings and bracings. Examine spars for rot at the root ends. As with the undercarriage, a spare set of wings are fitted to avoid delay.

One Year.—Bottom main planes and complete tail unit recovered and all fittings removed, for wood rots under the fittings very rapidly. The top planes are not recovered at this period, for these are always in good condition as they are not so exposed to the spray in taxiing.

A book is kept as a record for all fabric-covered components every wing, tail-plane, etc., has a number and by referring to the book it is possible to tell at a glance what work has been done on it since it was received from the makers.

Modifications.—All bolts, washers and packing pieces changed to stainless steel. Fuselage 3-ply strengthened to $\frac{1}{2}$ in. thickness in No. 1 and No. 2 compartments, base and sides. Gauge of float axles increased to 16 S.W.G. Extra bracing added to front former of the fuselage securing front centre section bracing. Float keels strengthened. Drain-holes in fabric components of the tail unit covered. Water enters from wash of floats causing corrosion of the trailing edges and rotting of the wood to such an extent that the latter was found to be black when these parts were examined on several occasions. Deletion of all aluminium washers. Steel pinions fitted instead of fibre in the magnetos. Airspeed indicator of the Pitot type removed, as the life of each was matter of weeks, the D.H. type on the struts are retained. Main-plane withdrawal pin stops and aluminium blocks in the interplane struts both replaced with others of phosphor bronze, the aluminium ones were completely eaten away in three months' service.



PUSS MOTH SEAPLANE.

THROUGH the kindness of Col. The Master of Sempill we are able to publish some photographs showing the "Puss Moth" on floats. On the left, at the top, she is seen at Hugh Town, St. Mary's, Scilly Is., while on the right, "Ann" and "Jane" are ensuring a clean "understanding"! Below, a unique view shows the "Puss Moth" at Falmouth, in front of THE "Cutty Sark."

About 25 hrs. flying has been done and she has shown admirable behaviour under all sorts of adverse conditions. The floats are fitted with water rudders which enable her to be manoeuvred on the water very easily.

During this time no difficulty was experienced with the engine even when soured with water when taking off in rough seas.

BRISTOL AND WESSEX Aeroplane Club Garden Party will include a special aerial display for the members of the British Association for the Advancement of Science.

This will be the first occasion upon which the programme of the British Association has included a flying display and aeronautical exhibition. Several manufacturers have promised to send their latest types of aircraft to this meeting, and the Bristol Club are arranging an interesting display of aircraft and engine models. It is also hoped that the Curtiss wind tunnel will be on view by special arrangement with the Shell Mex Company.

There will be competitions for visiting pilots, aerobatic exhibitions and a parachute jump by Mr. John Trantum with a Russell Lobe parachute. The Bristol Club intend making September 6 an informal afternoon, and look upon this occasion as an opportunity of welcoming their friends.

THE SHEFFIELD FLYING CLUB has 150 members, but, until recently, no aeroplane. On Saturday, August 9, however, a new Blackburn "Bluebird" machine arrived at the Coal Aston aerodrome, Sheffield, for the use of the club. The aeroplane has been given by Mr. George Kenning, of Sheffield, who has also offered to pay all repairs and maintenance of the machine until the end of the summer.

THE BROOKLANDS SCHOOL OF FLYING.—The flying time for the month of July amounted to 178 hours. Instruction has been held up considerably owing to bad weather, but the following have managed to gain their "A" licences: Sir Anthony Hogg and Mr. G. Turnbull.

The Hon. Mrs. Victor Bruce has been very busy learning up navigation for her long-distance flight.

Several private owners who keep their machines at Brooklands went, towards the end of July, for a flying holiday on the Continent, and all returned safely.

THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT. It is interesting to note that Miss Amy Johnson's machine was classed with the British Corporation and they carried out an inspection before she

left for Australia. Her machine is fitted with the badge issued to aircraft registered with the Corporation and their surveyor in Brisbane made an inspection after the machine was damaged. The quarterly survey is now being carried out before Miss Johnson tours the country.

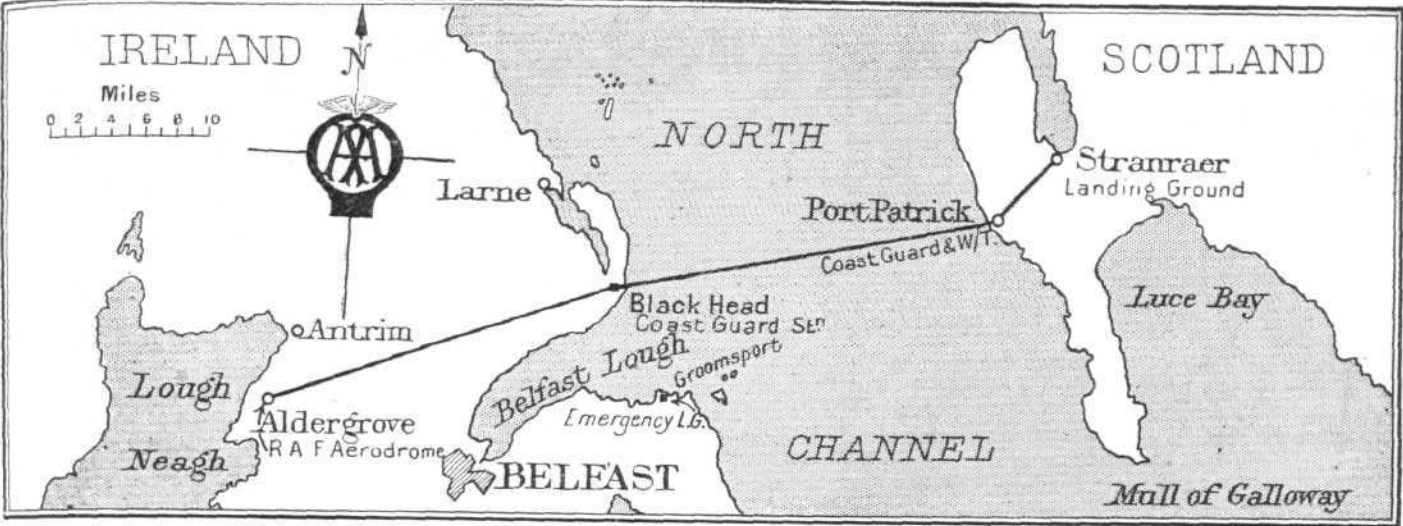
About 50 per cent. of the privately owned and club aircraft in this country now hold the British Corporation class and the numbers are steadily increasing. The British Corporation are the body to whom we are greatly indebted for help with our private owners' list.

LANCASHIRE AERO CLUB.—A tour was carried out last week by Mr. R. F. Hall and Mr. J. C. Sellars.

Leaving Woodford on Sunday, August 3, they flew via Blackpool and Carlisle to Glasgow, encountering bad weather conditions *en route*. The next day they crossed over to Edinburgh and then down to Newcastle. In the afternoon they explored Yorkshire, and finished up at Nottingham. From here they visited the East coast, cut inland again to Croydon in the hopes of seeing Miss Johnson's arrival, but, finding her late, they flew on to Lympne, where they saw her pass over. On Tuesday they flew along the South coast to Shanklin. Proceeding along the South coast, they reached Haldon Aerodrome, Teignmouth, where they spent another day and were most hospitably looked after by our old friend Mr. Parkhouse. The last day of the tour was via Yeovil, Bristol and Castle Bromwich, and back to Woodford.

Bearing in mind that the weather was distinctly unsettled throughout the week, the tour reflects considerable credit, not only upon the aircraft and engine, but also upon the ability and training of the *ab initio* pilots concerned.

As from August 11 the new experimental scheme of aircraft maintenance by A. V. Roe and Co., Ltd., will come into force, and the results will be watched with interest. A farewell supper party was held at the club on August 9 in honour of our ground engineers, Bartram and Harper, who have done such splendid work for the club, and who are now going to A. V. Roe and Co., Ltd. We also said good-bye with genuine regret to our temporary assistant instructor, Mr. Jack Oliver, who, however, has also got another post in the neighbourhood and will be remaining as a member.



A general map showing the route suggested.

ULSTER T.T. RACES, AUGUST 23RD

Air Route to Belfast

THE following information is supplied by the Automobile Association for the benefit of pilots proceeding to Ulster for the T.T. races.

The aerodrome for Belfast is the R.A.F. station at Aldergrove, co. Antrim. The distances to the nearest aerodromes in England are as follows:—

Blackpool-Aldergrove direct, via the Isle of Man	143 miles.
Blackpool-Aldergrove, via the coast and the North Channel	180 "
Newcastle-Aldergrove, via the North Channel	187 "
Barton and Hooton Park-Aldergrove, via the North Channel	215 "

The direct sea route from Blackpool via the Isle of Man involves crossing two stretches of sea 60 miles and 32 miles wide. The North Channel is 22 miles wide.

Emergency landings may be made along the coast route at the following places:—

Lancaster.—A field 1½ miles N.W. of the town and ½ mile N.N.W. of Lane Mills, a big factory on the S. bank of the River Lune. This field is at present used by the D. W. Aircraft Co. Ltd.

Dumfries.—A field 2 miles N.E. of the centre of the town and ½ mile N.W. of a large wood. This field is at the disposal of pilots in an emergency by the courtesy of the owner, Mr. James Wyllie of Tynwald Downs, Dumfries.

Stranraer (Wigtownshire).—A field 1 mile E. of the town, N.W. of a cross roads and S. of the golf links. A fee of 2s. 6d. for landing and 5s. parking fee for the night should be paid to Mr. Love whose farm is S.W. of the cross roads. This fee compensates Mr. Love for keeping his cattle out of the field. If a circuit is made of Stranraer, Mr. MacRobert,

proprietor of the King's Arms, will provide free transport to and from the landing ground.

Groomsport (Co. Down).—A field immediately to the S. of the town. The field slopes rather steeply up to the north and the highest part is surmounted by a clump of trees. This field is not recommended for inexperienced pilots. It is used by Mr. Rimmer for joy-riding and the landing fee should be paid to him.

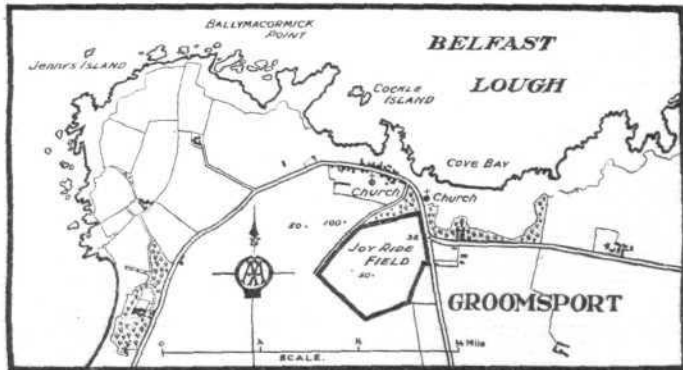
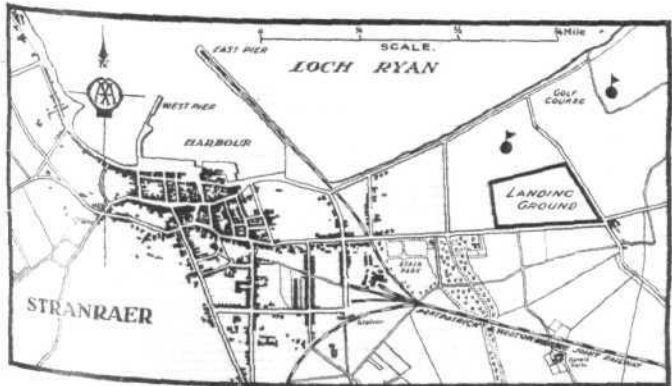
NORTH CHANNEL SIGNALLING SERVICE

For pilots crossing the North Channel a signalling service has been organised by the A.A. through the courtesy of the Air Ministry, the G.P.O., and the Board of Trade. Pilots who wish to avail themselves of this should make a low circuit over the coastguard station at Portpatrick in Scotland, and another circuit over the Coastguard station at Black Head (Co. Antrim). Portpatrick will notify Aldergrove by wireless of the departure of the aircraft. The coastguard at Black Head will notify Aldergrove by telephone of the safe crossing of the aircraft. If an aircraft is overdue at Black Head distress measures will be taken in the North Channel.

Pilots availing themselves of this service are particularly requested to circle the two coastguard stations referred to so that the registration letters of the aircraft may be noted and to land with as little delay as possible at Aldergrove, otherwise the efficacy of the service will be nullified, and those providing it will be put to a large amount of unwarranted trouble.

If a pilot has circled Portpatrick on his way out and is compelled to turn back, he should make a second circuit at Portpatrick so as to inform the coastguard of his return.

Pilots who do not intend to use this service are asked



Two maps showing the landing grounds arranged at Stranraer and Groomsport.

to give the coastguard stations referred to a wide berth. The service has been organised solely for the safety and convenience of those pilots who care to make use of it. In view of the considerable expense, trouble and anxiety that must arise if pilots fail to see that they are signalled at both points, namely, Portpatrick and Black Head, their whole-hearted co-operation is earnestly required.

The signalling service will be available only on August 22, 23 and 24. Particulars of the service for the return journey may be obtained from the A.A. representative at Aldergrove on any of the days mentioned.

In the event of aircraft being held up at Stranraer by bad weather, weather reports will be provided at the King's Arms Hotel, Stranraer.

REVIEWS

AMY JOHNSON*

THIS little book of 151 pages was written and published very promptly after the end of Miss Johnson's flight to Australia—more promptly indeed than we have found it possible to publish a review of the book. It gives a clear historical account of the flight, explains its difficulties and its triumphs, and gives the feat its proper place in the history of pioneer air touring. It also gives a personal sketch of the young girl pilot who has captured the imagination of the world, and it includes some account of other notable flights on the England-Australia airway, in particular that of Bert Hinkler. Bert Hinkler, by the way, may legitimately be called "Squadron Leader" but not "Captain." The book is written in a style which is likely to make it popular with the public which hankers for a hero to worship and has found a worthy one in Miss Johnson. It is well illustrated with photographs mostly supplied by FLIGHT and by the Air Survey Co. Ltd., and altogether is likely to have a ready sale, especially on the occasion of Miss Johnson's return to England.

* Amy Johnson, *Lone Girl Flyer*. By Charles Dixon, Author of "Parachutes for Airmen" (Sampson Low, Marston and Co., Ltd.). Obtainable from FLIGHT office. Price 3s. 6d. net.

FRIGHTFULNESS OF CIVILIZED WAR*.

NEITHER pacifism nor peacefulness has yet achieved its object of making war an impossibility. We must still speak and write with doleful certainty about "the next war," leaving merely the date to be filled in hereafter. It is, therefore, no academic point to discuss the manner in which the next war will be waged, and the most important question for all concerned is whether in the next war deliberate destruction shall be limited to armed forces in the widest sense of the term, or whether the whole population shall be a legitimate object of attack. There is no question in the world more momentous than this, for if general slaughter of civilians becomes accepted as a natural course of war, European civilization may well crumble into dust.

No writer has given more time and thought to this question than has Mr. Spaight. His research into the history and literature of the subject has been tireless. He is also a logician who considers every point and weighs every argument with meticulous care. What is more, he can see when there is a hole in his own chain of reasoning and when his own case is "not proven." Accordingly, when he has satisfied himself, the reader who is not also convinced can hardly be open to conviction.

In this latest book Mr. Spaight deals with schools of thought as regards the future conduct of war. On the one hand is what he calls "The Full-blooded Air School," and on the other the naval view and the military view. He also recognises the existence of a "moderate" air school, and it is to that school rather than to any other that he confesses allegiance.

It is often the case that schools of extreme thought are badly served by their leading advocates. Your extremist is seldom a respecter of logic or an exponent thereof. It is not convincing when naval and military pleaders appeal to the time-honoured rules of war and the dictates of humanity. Once a jury, in this case represented by the reader, grows suspicious that the real object of these officers is to "down" aircraft as an unwelcome novelty which trenches on the provinces of cruisers and cavalry, all their statements become suspect. On the other hand, the arguments of such men as General Mitchell, late chief of the United States Army Air Corps, are often so extreme and so unreasonable, that they do poor service to the cause of the air. Of far more import than the ravings of extremists is the existence of a body of opinion among the officers of our own Royal Air Force to the effect that the function of their service in the next war will be to "attack nerve centres" and so damage the moral of the enemy civil population and break its will to win.

* *Air Power and the Cities*. By J. M. Spaight. (Longmans, Green and Co.). Obtainable from FLIGHT office. Price 15s.

The arguments of the full-blooded air school are based on the supposition that, because aircraft are a new form of weapon, a new method of making war must be accepted. The advocates seem to hold that never before has any weapon made it possible to short-circuit, or attempt to short-circuit, the armed forces of the enemy and win a victory by terrorizing the civilians who elect the Government and pay the fighting men. What the Germans called "frightfulness" has been rendered possible for the first time, they say, by the discovery of aircraft. This is the first position which Mr. Spaight attacks. He quotes a number of instances to prove that naval power has often been used against cities with no idea or intention of breaking the armed forces of the enemy. On the whole, he finds that the naval commanders concerned have admitted that they were bound by the recognized rules of war, that they admitted the claims of humanitarianism, and that they held that unrestricted frightfulness would not pay. There is, therefore, a precedent older than the existence of aircraft to which appeal can be made. The whole argument based on the novelty of aircraft falls to the ground.

Having thus brought air forces into line with military and naval forces, Mr. Spaight proceeds to argue, step by step, that no short cut to victory has ever been found possible or is ever likely to become possible. Victory can only be achieved by the overthrow of the armed forces of the enemy. In support of this view he quotes many authorities of many nations. Germans were the modern exponents of "frightfulness," but German military authorities are the strongest of all in insisting that the military objective is the only sound objective to pursue. Mr. Spaight gives due weight to other arguments also. He does not neglect the humanitarian argument, and the natural objection of honourable fighters to become butchers of civilians. He mentions also the telling argument that fear of reprisals will act as a natural deterrent to prevent a belligerent, not already in the throes of despair, from commencing a policy of slaughter of civilians: but he subordinates all sentimental arguments to the utilitarian question of achieving victory.

The final section of this book is devoted to Mr. Spaight's ideas of the main function of an air force in a future war. As he has left the "full-blooded air school" with no sound leg on which to stand, it comes as rather a surprise to see Mr. Spaight propounding a way in which aircraft may actually have a very great effect in shortening war, though without violating any sound principle or any established practice of warfare. He points out that "war throughout the ages has been becoming more and more a question of machines." The mechanisation of human conflict began when, possibly, one neanderthal man used a flint to hit an opponent who was using only hands, feet, and teeth. Now, war without machines is impossible. The great rôle of aircraft, says Mr. Spaight, will be to strike at the factories where the machines of war are made. Workers in munition factories, while at work in their factories, are not peaceful civilians to be exempted from attack, though when they are in their homes they may come into that category. Factories are particularly good objectives for aircraft, because they are not mobile, as dumps, ammunition trains, and even aerodromes are. A factory cannot be moved. "The machines which kill are mobile. The machines which make the machines which kill are fixed." An organized, comprehensive attack on the enemy's munition factories will be the chief use of bomber aircraft. If it succeeds to any considerable extent, to that extent it will disarm the enemy's forces. Complete success would render him incapable of continuing to fight. Thus would victory be attained with a minimum of bloodshed, yet no rule of war or of humanity would be broken.

One might imagine that Mr. Spaight's syllogistic style of composition would make dry reading, even of a subject in which everyone ought to be interested. That is far from being the case. This is an intensely interesting book, and every air force officer at the least ought to read it and digest it.

F. A. DE V. R.

R.A.F. EXERCISES

Blue Andover *versus* Red Cranwell

By MAJOR F. A. de V. ROBERTSON, V.D.

THIS week the Royal Air Force is engaged in Air Exercises. In 1927 and 1928 exercises were held which practised the organization for the defence of London. There were no exercises in 1929. This year the defence of London does not enter into the scheme. The exercises more nearly resemble Army manoeuvres, in which two commanders and their staffs pit their brains against each other, while giving due latitude to subordinate commanders to use their discretion in the emergencies which always occur. These exercises will also test the ground mobility of the units.

The sketch map which we publish gives the best idea of the general scheme. Redland and Blue land are each conquering Powers who have seized portions of the island of Incognito. Red (we must not say The Reds) has secured the richer part of the island. There is mineral wealth at Hucknall and Bircham Newton, and naturally there is a system of railways which convey the exports up to Catterick, whence they are taken by canal to the sea. There are small ports at Skipway and Donna Nook. The Red colonists are unpopular with the natives of the colony. Their defence system consists of a few small coastal patrol vessels, a few military frontier guards, and a strong air force, mostly consisting of fighter squadrons, backed by some searchlights and other ground organisation. They have no system of coast watchers. The defence of the Red Colony is somewhat simplified by the existence of four mountain ranges along the frontier, which are shown on the map. These mountains are so high that aircraft will not (in fact, must not) attempt to fly over them. Raiders can only cross the frontier at the gaps round Sealand, Gloucester, Reading, Chelmsford, and Norwich. The capital of the colony is Cranwell.

The Blue Colony is poor land, undeveloped, and with hardly any means of communications. Its capital is Old Sarum, but its fighting H.Q. is Andover. The Blue Colony has little to lose and much to gain by an attack on its richer neighbour, and has accordingly picked a quarrel and sent an ultimatum which expired at 11 a.m. on Tuesday. Previous to that, Blue land had been moving its air squadrons up towards the frontier so as to be in readiness. Being an aggressive Power, the strength of the Blue forces lies in the number of its bomber squadrons. It has but few fighter squadrons. Its only seaport is Gosport.

For the purposes of these exercises the squadrons on each side have been organised in Wings, an organisation which has been dormant in Great Britain for some years past. It will be interesting to see whether these improvised commands and staffs work successfully. Red, being a defensive Power, has a predominance of fighter squadrons.

The forces (Squadrons and Officers Commanding) are arranged as follows:—

It will be noticed that No. 53 Wing is composed of three squadrons of the Auxiliary Air Force.

The exercises commenced at 11 a.m. on Tuesday, 12 inst., and will continue until 5 a.m. on Saturday, 16th inst.

RED COLONY

- (a) Air Forces:—
No. 1 (Night Bombers) Wing : 10 Sqn. (Hyderabad), North Coates, W/Cdr. A. T. Whitelock. 99 Sqn. (Hinaidi), Upper Heyford, W/Cdr. H. G. Smart, O.B.E., D.F.C., A.F.C.
No. 2 (Day Bomber) Wing : 35 Sqn. (Fairey III F), Catfoss, S/Ldr. B. E. Harrison, A.F.C. 100 Sqn. (Horsley), Bicester, S/Ldr. W. B. Farrington, D.S.O. 207 Sqn. (Fairey III F), Catfoss, S/Ldr. E. A. Beaulah.
No. 3 (Fighter) Wing : 3 Sqn. (Bulldog), Upavon, S/Ldr. E. D. Johnson, A.F.C. 17 Sqn. (Bulldog), Upavon, S/Ldr. R. Harrison, D.F.C. 19 Sqn. (Siskin), Duxford, S/Ldr. C. R. Keary.
No. 4 (Fighter) Wing : 23 Sqn. (Gamecock), Kenley, S/Ldr. H. W. Wool-



lett, D.S.O., M.C. 32 Sqn. (Siskin), Kenley, S/Ldr. B. E. Baker, D.S.O., M.C., A.F.C. 41 Sqn. (Siskin), Sutton Bridge, S/Ldr. P. Huskinson, M.C. No. 5 (Fighter) Wing : 29 Sqn. (Siskin), North Weald, S/Ldr. P. G. Scott. 111 Sqn. (Siskin), Andover, S/Ldr. L. H. Slatter, O.B.E., D.S.C., D.F.C. Total : 13 squadrons, made up of 2 night bomber squadrons, 3 day bomber squadrons, and 8 fighter squadrons.

Aircraft Depot (Imaginary), Catfoss.

Aerodromes available in Red Colony : Catfoss, North Coates, Waddington, Hucknall, Cranwell, Castle Bromwich, Duxford, Bircham Newton, Upper Heyford, Bicester, Northolt, Kenley, Biggin Hill, Hornchurch, North Weald. These aerodromes contain petrol, oil, bombs and ammunition sufficient for one month.

Note.—The following although marked as centres on the map are available as emergency landing grounds only and are not to be used as aerodromes : Catterick, Brough.

(b) Ground Forces :

1st A.A. Searchlight Battalion. Peace station : Blackdown. Officer Commanding : Colonel P. W. Bliss. Military posts (mobile) : Frontier.

BLUE COLONY

Air Vice-Marshal Sir John M. Steel, K.B.E., C.B., C.M.G., Air Officer Commanding, Wessex Bombing Area, will command Blue Colony Air Defence Forces, with headquarters at Andover, and Group Captain John T. Cull, D.S.O., will be Chief Staff Officer. Blue Colony air forces will consist of:—

No. 51 (Night Bomber) Wing : 9 Sqn. (Virginia), Manston, W/Cdr. W. V. Strugnell, M.C. 7 Sqn. (Virginia), Worthy Down, W/Cdr. C. W. H. Pulford, O.B.E., A.F.C. 58 Sqn. (Virginia), Worthy Down, W/Cdr. E. W. Norton, D.S.C.

No. 52 (Day Bomber) Wing : 12 Sqn. (Fox), Andover, S/Ldr. F. H. M. Maynard, A.F.C. 33 Sqn. (Hart), Upavon, S/Ldr. J. J. Breen. 101 Sqn. (Sidestrand), Andover, S/Ldr. F. H. Coleman.

No. 53 (Day Bomber) Wing : 600 Sqn. (Wapiti), Tangmere, S/Ldr. The Rt. Hon. F. E. Guest, C.B.E., D.S.O. 601 Sqn. (Wapiti), Lympne, S/Ldr. The Rt. Hon. Sir Philip Sassoon, Bart, G.B.E., C.M.G., M.P. 605 Sqn. (Wapiti), Manston, S/Ldr. J. A. C. Wright.

No. 54 (Fighter) Wing : 1 Sqn. (Siskin), Tangmere, S/Ldr. E. O. Grenfell, M.C., D.F.C. 43 Sqn. (Siskin), Tangmere, S/Ldr. C. N. Lowe, M.C., D.F.C. 25 Sqn. (Siskin), Hawkinge, S/Ldr. R. S. Aitken, M.C., D.F.C.

Total : 12 squadrons, made up of 3 night bomber squadrons, 6 day bomber squadrons, 3 fighter squadrons.

Aircraft depot (imaginary), Tangmere.

Aerodromes available in Blue Colony :—Upavon, Andover, Worthy Down, Tangmere, Lympne, Hawkinge, Manston, Eastchurch. These aerodromes contain petrol, oil, bombs and ammunition for one month.

Note.—The following although marked as centres on the map are available as emergency landing grounds only and are not to be used as aerodromes :—Old Sarum, Gosport.

(To be continued.)

Change in the Higher Command, R.A.F.

THE Air Ministry announces the following appointment :—Air Vice-Marshal Hugh Caswall Tremenhoe Dowding, C.B., C.M.G., now Air Officer Commanding, Fighting Area, Air Defence of Great Britain, to be a member of the Air Council (Air Member for Supply and Research), with effect from September 1, 1930, in place of Air Marshal Sir John Frederick Andrews Higgins, K.C.B., K.B.E., D.S.O., A.F.C., who has been placed on the retired list at his own request.

Gordon Shephard Prize Essay

THE subject of the Gordon Shephard Memorial Prize essay for 1930-31 is to be concerned with the importance to

an army of night reconnaissance by air. Assuming existing types of aircraft and equipment, competitors are asked to describe the best method of meeting night reconnaissance requirements. If they consider that such reconnaissance could be made more effective, they are asked to outline their suggestions for organisation and training, and to state what effect their proposals would have on the ability of the R.A.F. to meet other army requirements. They are also to describe very briefly the directions in which aircraft and equipment might be improved for night reconnaissance purposes, without sacrificing efficiency in other directions. Essays in triplicate must reach the Secretary of the Air Ministry on or before February 1, 1931.

THE ROYAL AIR FORCE

London Gazette, August 5, 1930.

General Duties Branch

Pilot Officer L. R. S. Freestone is confirmed in rank (June 17). The undermentioned Pilot Officers are promoted to rank of Flying Officer (June 15):—J. G. W. Weston, D. W. Bayne, D. J. Eayrs, W. R. Beaman, H. G. Richards, D. P. Lascelles, R. W. Letchworth, F. D. Lockwood.

The undermentioned are restored to full pay from half-pay:—Wing Commander P. C. Sherren, M.C. (Aug. 4); Sqdn.-Ldr. F. Fowler, D.S.C., A.F.C. (Aug. 1).

Sqdn.-Ldr. H. H. James, O.B.E., is placed on half-pay list, scale A (June 30 to Dec. 30, inclusive). Flight Lt. J. Lawson is placed on retired list at his own request (Aug. 5). The undermentioned Flying Officers are transferred to the Reserve, Class A:—R. A. Wills (July 18); A. P. Wayte (Aug. 5).

The short service commns. of undermentioned Pilot Officers on probation are terminated on cessation of duty:—C. C. M. Dunman (Aug. 2); G. H. Leftwich (Aug. 6); J. G. Nolan (Aug. 6). Flying Officer J. N. Berkeley-Miller (Lt. Royal Tank Corps) relinquishes his temp. commn. on return to Army duty (July 26). Flying Officer B. F. R. M. Freeman (Lt. King's Own Royal Regt.) relinquishes his temp. commn. on resigning his Army commn. (Aug. 1).

Medical Branch

Flight Lt. A. F. Cook, L.R.C.P. and S., ceases to be seconded for duty with Trans-Jordan Frontier Force (Aug. 1).

Dental Branch

The undermentioned Flight Lieutenants (Temp. Captains, General List,

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Group Captain T. G. Hetherington, C.B.E., to Half-pay List, 25.7.30.

Wing Commander D. Harries, A.F.C., to Half-pay List, on completion of Senior Officers' Course, Sheerness, 27.7.30.

Squadron-Leader L. M. Bailey, A.F.C., to Air Ministry (D.O.S.D.), 11.7.30.

Flight-Lieutenants: R. C. Wansbrough, to Special Duty List, 21.7.30.

W. C. Yale, to H.Q., No. 1 Air Defence Group, 17.7.30. G. N. Carroll, to R.A.F. Depot, Uxbridge, 20.7.30. C. W. Weedon, to Cambridge University Air Sqdn., 8.7.30. G. C. Shepherd, to Cambridge University Air Sqdn., 8.7.30. H. R. Bardon, to Cambridge University Air Sqdn., 8.7.30.

Flying Officers: N. X. Sheldrick, to No. 2 Armoured Car Co., Palestine, 24.7.30. R. Kellett, to Home Aircraft Depot, Henlow, 4.7.30. C. E. Eckersley-Maslin, to R.A.F. Depot, Uxbridge, 5.7.30. E. L. S. Ward, to Home Aircraft Depot, Henlow, 5.7.30. P. F. G. Bradley, to Home Aircraft Depot, Henlow, 31.7.30. L. O. Welch, to No. 2 Flying Training School, Digby, on appointment to a temp. commn., 15.7.30.

Pilot Officers: H. R. Clay, to No. 70 Sqdn., Iraq, 11.7.30. R. W. H.

Army, Dental Surgeons) are granted non-permanent commns. as Flight-Lieuts. (July 1):—J. M. Jamie, L.D.S.; H. D. Humphreys, L.D.S.

RESERVE OF AIR FORCE OFFICERS**General Duties Branch**

The undermentioned are granted commns. in Class A.A. (ii) as Pilot Officers on probation:—L. F. Malone (July 18); M. D. R. Meiklejohn (July 21). R. M. H. Noble (July 24). R. P. S. Davidson is granted commn. in Class A as Pilot Officer on probation (July 19). F. L. D. Salter is granted commn. in Special Reserve as Pilot Officer on probation (June 4). Flying Officer P. P. Grey is transferred from Class A to Class C (July 10). Flying Officer W. C. Venmore is transferred from Class C to Class A (June 26). Flying Officer J. Durward relinquishes his commn. on completion of service and is granted permission to retain rank of Flight Lt. (Dec. 7, 1929).

Accountant Branch

Flight Lt. L. J. Marden relinquishes his commn. on completion of service (April 21).

AUXILIARY AIR FORCE**General Duties Branch**

No. 602 (CITY OF GLASGOW) (BOMBER) SQUADRON.—Pilot Officer F. G. Murray resigns his commn. (May 7). No. 603 (CITY OF EDINBURGH) (BOMBER) SQUADRON.—The Rt. Hon. the Earl of Stair, D.S.O., D.L., J.P., to be Honorary Air Commodore (Aug. 5). No. 607 (COUNTY OF DURHAM) (BOMBER) SQUADRON.—W. L. Runciman to be Squadron-Leader and to command the Squadron (June 13).

Rayneau, to R.A.F. Depot, Uxbridge, 17.7.30. R. Hanson, H. J. L. Hawkins, A. H. Hole, T. A. Jefferson, A. F. McKenna, D. H. Marsack, J. W. Martin, F. G. Mason, C. L. Monckton, M. A. Payn, H. N. G. Ramsbottom-Isherwood, I. G. Ross, C. B. Smith, E. C. Smith-Ross, and C. P. Villiers, to No. 4 Flying Training School, Egypt, 24.7.30. E. F. J. L'Estrange, to No. 4 Sqdn., S. Farnborough, 18.7.30.

Stores Branch

Pilot Officers: W. A. Lee, to H.Q., R.A.F., Cranwell, 1.8.30. L. Llewellyn, to No. 2 Flying Training Sch., Digby, 1.8.30. E. N. Lowe, to Station H.Q., North Weald, 1.8.30. J. W. C. Revill, to Station H.Q., Andover, 1.8.30. G. C. Allen, to H.Q., R.A.F., Halton, 1.8.30.

NAVAL APPOINTMENTS

The following appointments were made by the Admiralty on July 24:—Lieuts. (F./O., R.A.F.).—C. L. KEIGHLY-PEACH, to *Centaur*; and G. WILLOUGHBY, to *Repulse* (Aug. 14); C. A. R. GIBB, to *Suffolk* (Sept. 1); and J. W. M. HEALING, to *Royal Sovereign*.

The following appointment was made by the Admiralty on July 31:—Lieut., F./O., R.A.F.—T. H. Villiers, to *Victory*, for F.F.D. in B.T. Sqdn. Gosport (Aug. 1).

NEW COMPANY REGISTERED

THE NOTTINGHAM FLYING CLUB, LTD.—Capital £100 in £1 shares. Under an agreement, the Nottingham Aero Club, Ltd., and C. R. Sands and N. I. Smith, a copy of which is scheduled to an agreement dated May 23, 1930, and made between National Flying Services, Ltd., of the first part, the Nottingham Aero Club, Ltd., of the second part, and C. H. Sands and H. A. Hallam of the third part, to establish and maintain an aeroplane club in connection with the City of Nottingham; and to acquire the Tollerton Aerodrome, near Nottingham. Directors:—A. G. Hemsley, 1, Melina Place, St. John's Wood, N.W.8, solicitor. Lt.-Col. I. A. E. Edwards, Bowne Hall, Downe, Kent (director of National Flying Services, Ltd.). G. E. F. Boyes, 22, Hans Crescent, Knightsbridge (director of National Flying Services, Ltd.). Sir Albert Ball, Kt., Sedgely House, The Park, Nottingham. N. I. Smith, 41, Half Moon Street, W. (secretary of National Flying Services, Ltd.). Secretary:—N. I. Smith. Registered office, Grand Buildings, Trafalgar Square, W.C.2.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

APPLIED FOR IN 1929

Published August 14, 1930

- 11,746. G. MOLINO and G. NAEP. Controlling means for movable control surfaces of aircraft. (332,242.)
11,751. M. O. DARBY and A. A. SIDNEY. Starting of i.c. engines. (332,221.)
13,360. V. ISAACO. Flying machine. (332,312.)
19,395. KOLSTER-BRANDES, LTD. System of aerial navigation utilising electro-magnetic radiation. (314,310.)
24,021. G. PEGNA and Soc. ANON. PIAGGO AND Co. Fin system for hydro-aeroplanes. (332,423.)

APPLIED FOR IN 1930

Published August 14, 1930

- 11,445. BLACKBURN AEROPLANE AND MOTOR Co., LTD., and H. BLACKBURN. Carburettors. (332,515.)
11,660. BLACKBURN AEROPLANE AND MOTOR Co., LTD., and H. BLACKBURN. Carburettors. (332,516.)

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Silencing Light Aircraft

SILENCING light aircraft is a problem engaging the attention of many brains at the moment and the exhaust system, which in theory should be the simplest to suppress, is receiving close attention. Mr. D. K. Marendaz, the well-known racing motorist and designer of racing cars, has for some time past been experimenting with a car exhaust silencer for his Moth which he entered for the King's Cup Race.

The unit he has been using is a Vortex Silencer, whose working principle—utilising the inertia of the gas to create vortices—has already proved successful in motor-boating and motoring. Although Mr. D. K. Marendaz's researches, which are not yet concluded, have been independently conducted it is worthy of remark that Major F. B. Halford, the well-known designer of the original Cirrus and the Gypsy engines is on the board of Vortex Silencers, Ltd.

Pratt's Aerial Sign-Posts

THE proprietors of Pratt's petrol have arranged to paint names of places and direction arrows on the roofs of their tanks and depôts to assist pilots when flying across country. The letters in which the names are painted will be 50 ft. high, and will be visible in fair weather from 2,000 to 3,000 ft. The company plans to paint these signposts on as many as possible of its 600 depôts.

Maj. Stewart Makes a Change

HIS many friends in the aircraft industry, at home and abroad, will be interested to learn that Maj. Stewart has resigned his post as managing director of Cirrus Aero Engines, Ltd. "Jack" Stewart has done excellent work during his many years' association with A.D.C. Aircraft and the Cirrus Co., and all will wish him well in whatever new task he undertakes. That it will be connected with aviation is a foregone conclusion.

"Mac" G.M.

FEW men have worked harder, or to better purpose, than Mr. MacKenna, of the Gloster Aircraft Co., Ltd. During that firm's period at Sunningend, MacKenna did wonders in the way of organising production, and now that the works have been transferred to Brockworth and wonderfully planned by Mr. Longden, MacKenna has greater scope than ever. Recognising his great abilities, Mr. Longden has appointed MacKenna to the post of general manager, in which responsible position his services will be even more valuable. Congratulations "Mac"!